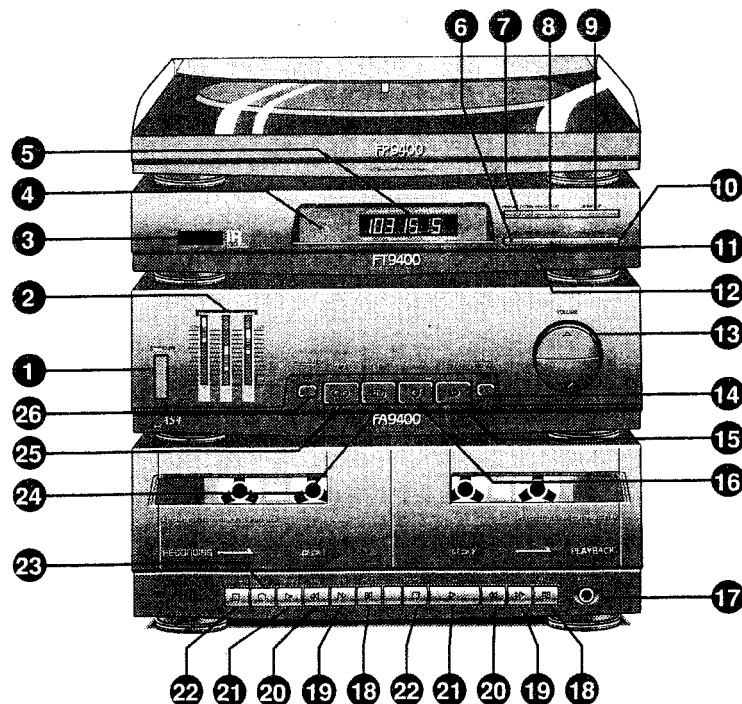


Service Service Service

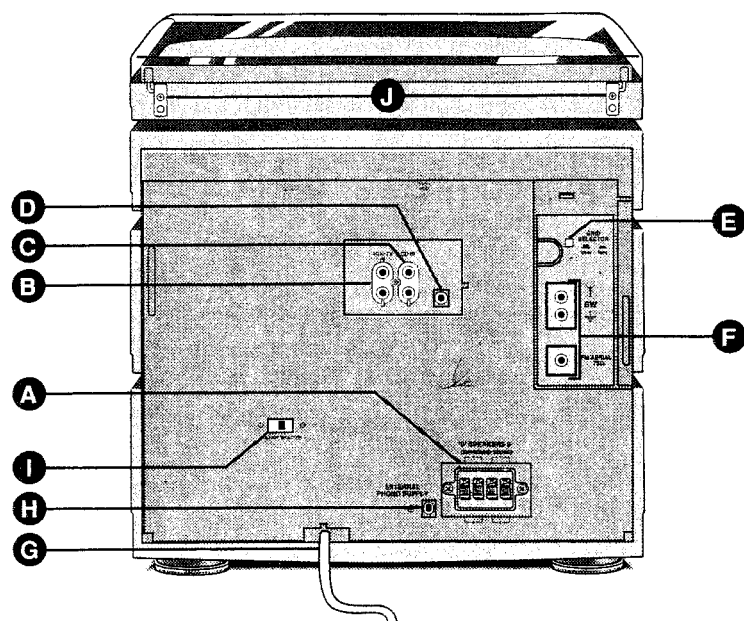
For repair information of the cassette mechanism
see Service Manual of Recorders tape deck RDN-1

For repair information of the Record player
see Service Manual of Record player HP7D283MQ-1

Service Manual



CONNECTIONS AND CONTROLS



1	Power switch	1263	19	F.Forward	
2	Graphic equalizer	3507, 3509	20	F.Rewind	
		3511	21	Play	
3	Infra red sensor	6420	22	Stop - Eject	
4	Stand by indicator	6435	23	Record	1713
5	Display	7400	24	Tuner selector	1404
6	FM/AM	1406	25	Tape selector	1402
7	Preset down	1412	26	HS Dubbing switch	1690
8	Preset up	1411	A	Speaker connection	1200
9	Tuning up	1407	B	CD/TV Input	1554
10	Tuning down	1410	C	Not applicable	
11	Mono/Stereo	1408	D	RC output	1422
12	Program memo	1409	E	Not applicable	
13	Volume control	1510, 1511	F	FM aerial socket	1100
14	DBB switch	1405	G	AC cord	
15	CD/TV selector	1403	H	Not applicable	
16	Phono selector	1401	I	Not applicable	
17	Headphone	1258	J	Not applicable	

SPECIFICATIONS

GENERAL

Mains voltage	: 120V - 220V - 240V
Voltage setting	: Serviceable set at 220V
Mains frequency	: 50Hz - 60Hz
Power consumption	: 85W max.

TUNER : FM SECTION

Tuning range	: 87.5MHz - 108MHz
IF frequency	: 10.7MHz
Aerial input	: 75 Ω dipole
Sensitivity at 26dB S/N	: <5 μ V
Selectivity at 600kHz bandwidth	: >30dB
IF rejection	: >60dB
Image rejection	: >25dB

TUNER : AM SECTION

Tuning range	MW : 522kHz - 1611kHz LW : 148kHz - 284kHz
IF frequency	: 450kHz
Sensitivity at 26dB S/N	MW : <3.0mV/M LW : <4.0mV/M
Selectivity at 18kHz bandwidth	: >20dB
IF rejection	: >26dB
Image rejection	MW : >28dB LW : >30dB

AMPLIFIER

Output power at 10% distortion	: 2 x 10W -1dB
Speaker impedance	: 2 x 8 Ω L/R
Frequency response within \pm 3dB	: 100Hz - 14kHz
Equalizer control	: -6dB to +6dB
Dynamic bass boost	: +6dB at 100Hz
Input sensitivity	Aux/CD : 400mV
Remote control	: 5V non-inverted RC5
Headphone output at 32 Ω	: 30mW

CASSETTE RECORDER

Number of track	: 2 x 2 stereo
Tape speed	: 4.76 cm/sec \pm 2% 2 x 4.76 cm/sec
Wow and flutter	: <0.35%
Fast-wind time C60	: 130 sec
Bias frequency	: 57kHz \pm 10kHz
Recording playback frequency response within -8dB	: 80Hz - 10kHz (Recording) 80Hz - 9kHz (NS Dubbing) 125Hz - 8kHz (HS Dubbing)
Signal to noise ratio	Rec : >44dB NS Dubbing : >42dB HS Dubbing : >36dB

RECORD PLAYER

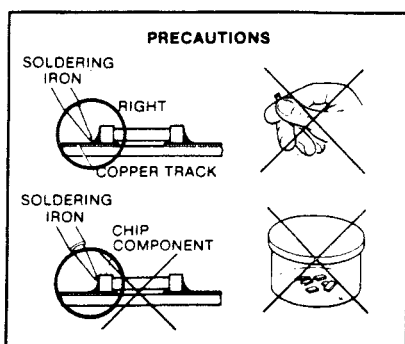
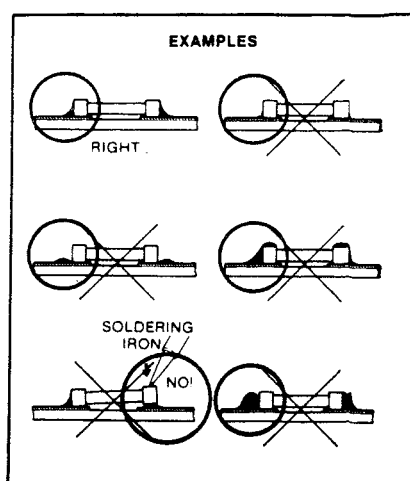
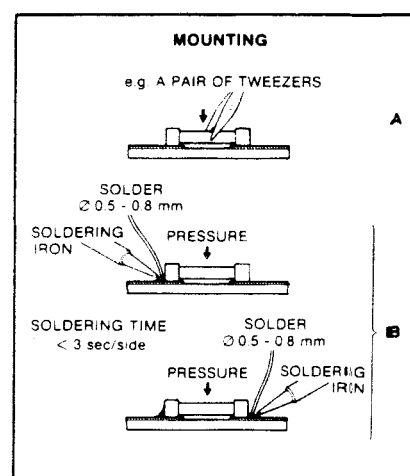
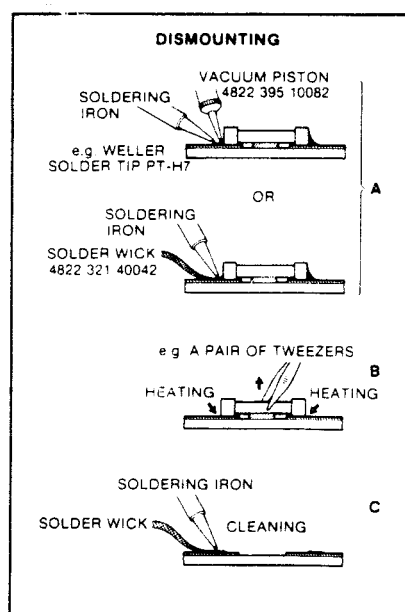
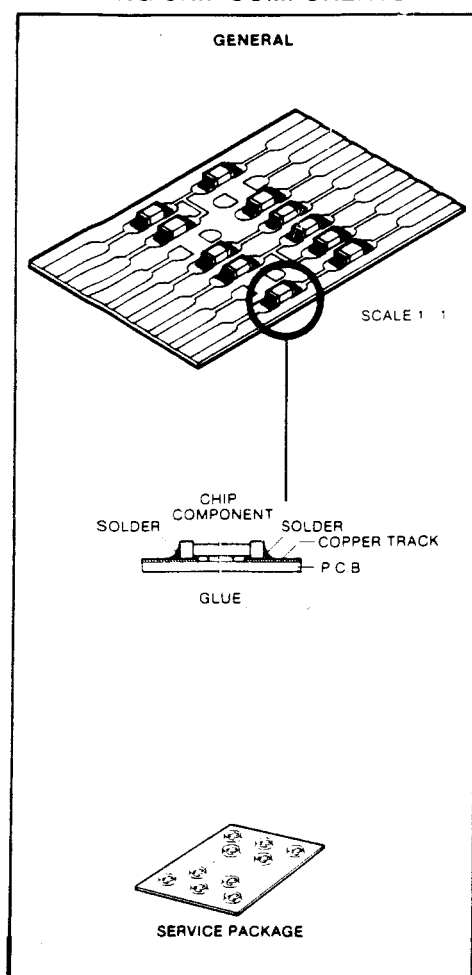
Type of drive system	: Belt drive
Type of PU Head	: Sapphire (Magnetic stereo)
Stylus force	: 5.0gmf +1.5gmf/-1gmf
Speed	: 33 1/3 ; 45 rpm \pm 2.2%
Wow and flutter	: 0.3%
Rumble	: -30dB DIN A -50dB DIN B

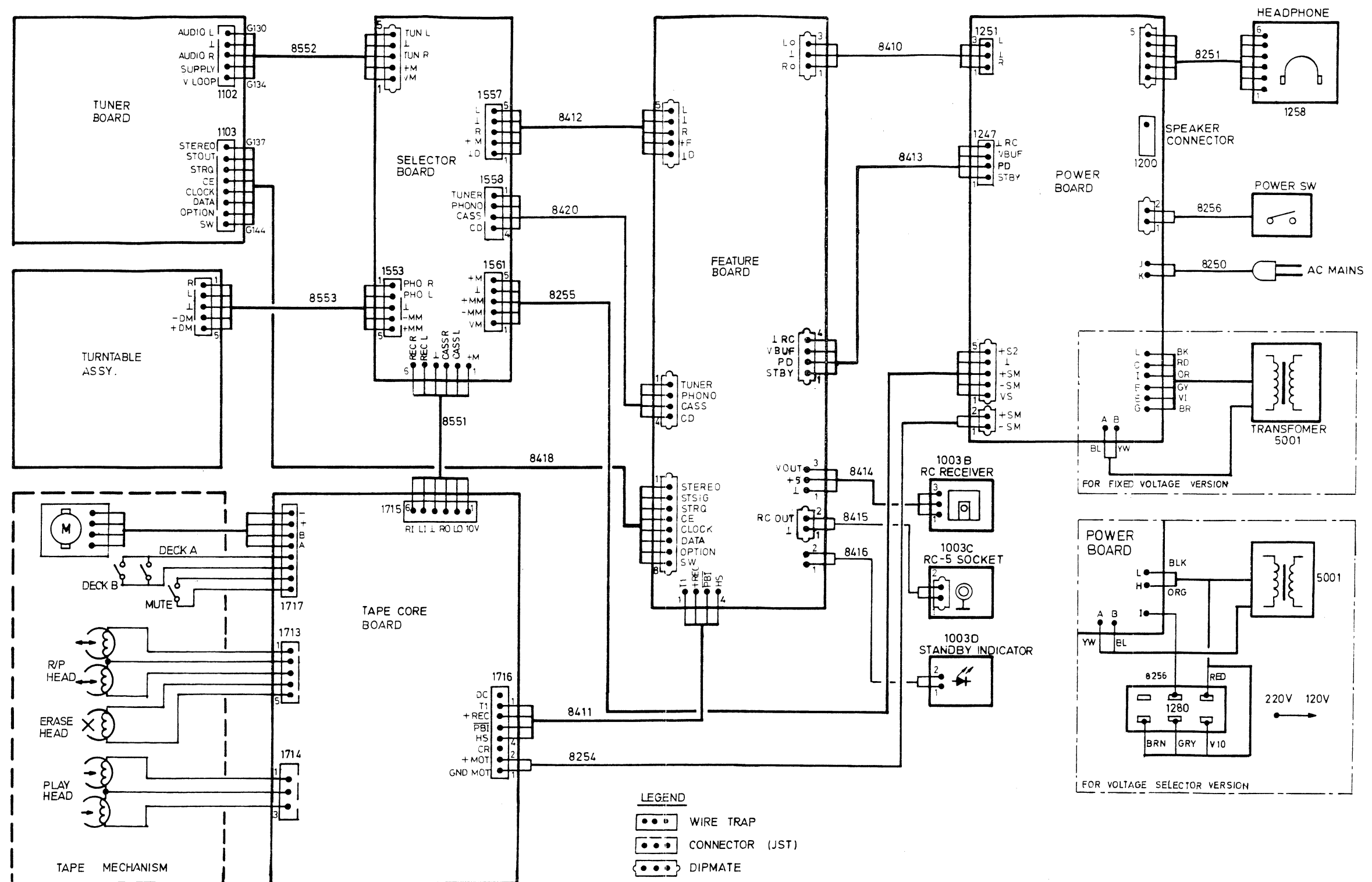
ADJUSTMENT	CASSETTE	Recorder position			MEASURE ON	READ ON	ADJUST WITH	ADJUST TO
		SK...	DECK I	DECK II				
Azimuth	10KHz SBC 420*	Tape	Play	-	1258	mV-meter	Left hand Screw Play head	Max. L = R
		Tape	-	Play	1258	mV-meter	Left hand Screw R/P Head	
Motor speed (Normal)	3150Hz SBC420*	Tape	Play	-	1258	Wow and Flutter meter	preset in motor	** a
		Tape	-	Play	1258	Wow and Flutter meter	-	
Motor speed (high)	3150Hz SBC420*	Tape HS Dubbing	Record	Play	1258	Frequency counter	-	6.0KHz +/-0.3KHz

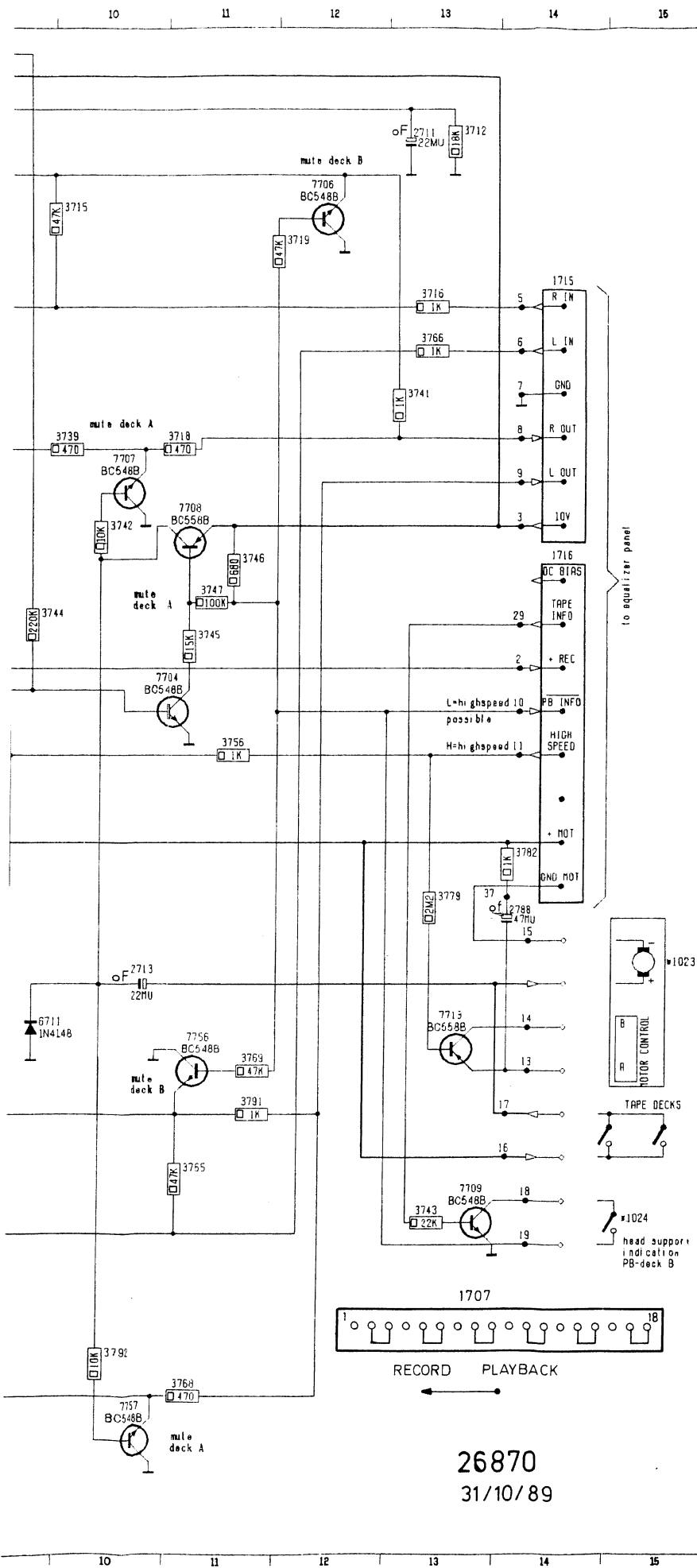
* SBC 420 : 4822 397 30071

** a The maximum permissible speed deviation is 2%.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.35%.

HANDLING CHIP COMPONENTS

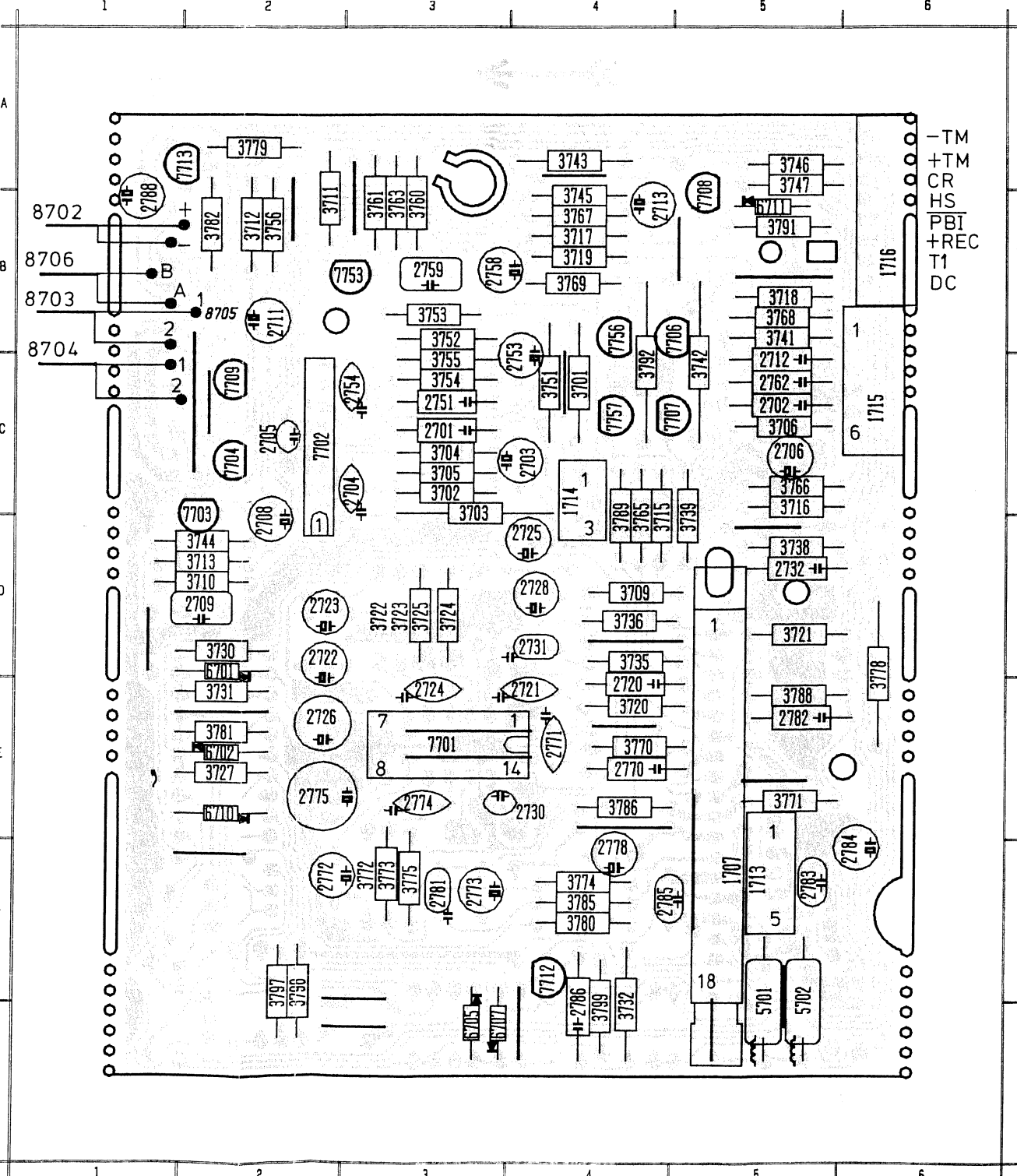






1021	H 1	3775	N 3
1021	G 1	3778	G 8
1023	H 15	3779	H 13
1024	H 15	3780	G 7
1030	J 1	3781	E 7
1030	J 1	3782	H 14
1032	I 1	3785	M 7
1707	D 2	3786	L 8
1707	I 3	3788	N 4
1707	L 2	3789	M 8
1713	I 1	3791	J 11
1714	J 1	3792	M 10
1715	C 14	3797	F 4
1716	E 14	3798	G 4
2701	B 3	3799	F 5
2702	A 5	5701	I 5
2703	B 4	5702	I 5
2704	B 4	6701	D 7
2705	A 5	6702	E 7
2706	A 6	6705	G 5
2707	D 6	6707	H 5
2708	B 8	6710	E 6
2709	C 7	6711	J 9
2711	A 13	7701	D 5
2712	B 9	7702	B 5
2713	I 10	7703	B 7
2720	C 3	7704	F 10
2721	E 3	7706	B 12
2722	D 4	7707	D 10
2723	D 4	7708	E 11
2724	D 4	7709	K 13
2725	D 7	7712	G 6
2726	E 5	7713	J 13
2728	D 6	7753	K 7
2730	C 6	7756	J 11
2731	C 8	7757	M 10
2732	E 4	8907	D 8
2751	K 3	8907	G 6
2753	K 4	8907	M 8
2754	J 4		
2757	M 6		
2758	J 8		
2759	K 6		
2762	K 9		
2770	L 3		
2771	N 3		
2772	L 4		
2773	M 4		
2774	M 4		
2775	L 5		
2778	M 6		
2781	L 7		
2782	N 4		
2783	I 3		
2784	G 7		
2785	I 5		
2786	H 5		
2788	I 14		
3701	A 2		
3702	A 4		
3703	B 4		
3704	B 4		
3705	B 3		
3706	A 6		
3709	B 6		
3710	C 6		
3711	B 7		
3712	A 13		
3713	C 7		
3715	B 9		
3716	C 13		
3717	B 8		
3718	D 11		
3719	B 11		
3720	D 3		
3721	F 3		
3722	D 4		
3723	D 4		
3724	E 4		
3725	E 3		
3727	E 6		
3730	D 8		
3731	E 7		
3732	H 5		
3735	D 8		
3736	C 8		
3738	F 4		
3739	D 10		
3741	D 13		
3742	E 10		
3743	K 13		
3744	F 9		
3745	F 11		
3746	E 11		
3747	F 11		
3751	J 2		
3752	J 4		
3753	K 4		
3754	K 4		
3755	K 3		
3756	G 11		
3760	K 7		
3761	J 7		
3763	K 7		
3765	K 11		
3766	C 13		
3767	J 8		
3768	H 11		
3769	J 11		
3770	L 3		
3771	M 8		
3772	L 4		
3773	M 4		
3774	M 4		

1707	F 5	2720	E 4	2752	C 5	3702	C 3	3721	D 5	3744	D 2	3768	B 5	3789	D 4	7703	C 2
1713	F 5	2721	E 4	2770	E 4	3703	C 3	3722	D 3	3745	B 4	3769	B 4	3791	B 5	7704	C 2
1714	C 4	2722	D 2	2771	E 4	3704	C 3	3723	D 3	3746	A 5	3770	E 4	3792	C 4	7706	B 4
1715	C 6	2723	D 2	2772	F 2	3705	C 3	3724	D 3	3747	A 5	3771	E 5	3797	F 2	7707	C 4
1716	B 6	2724	E 3	2773	F 3	3706	C 5	3725	D 3	3751	C 4	3772	F 3	3798	F 2	7708	B 5
2701	C 3	2725	D 4	2774	E 3	3709	D 4	3727	E 2	3752	B 3	3773	F 3	3799	G 4	7709	C 2
2702	C 5	2726	E 2	2775	E 2	3710	D 2	3730	D 2	3753	B 3	3774	F 4	5701	F 5	7712	F 4
2703	C 4	2728	D 4	2778	F 4	3711	B 2	3731	E 2	3754	C 3	3775	F 3	5702	F 5	7713	A 2
2704	C 3	2730	E 4	2781	F 3	3712	B 2	3732	G 4	3755	C 3	3778	D 6	6701	D 2	7753	B 3
2705	C 2	2731	D 4	2782	E 5	3713	D 2	3735	D 4	3756	B 2	3779	A 2	6702	E 2	7756	B 4
2706	C 5	2732	D 5	2783	F 5	3715	D 4	3736	D 4	3760	B 3	3780	F 4	6705	G 3	7757	C 4
2708	D 2	2751	C 3	2784	F 6	3716	C 5	3738	D 5	3761	B 3	3781	E 2	6707	G 3		
2709	D 2	2753	C 4	2785	F 4	3717	B 4	3739	D 5	3763	B 3	3782	B 2	6710	E 2		
2711	B 2	2754	C 3	2786	F 4	3718	B 5	3741	B 5	3765	D 4	3785	F 4	6711	B 5		
2712	C 5	2758	B 3	2788	B 1	3719	B 4	3742	C 5	3766	C 5	3786	E 4	7701	E 3		
2713	B 4	2759	B 3	3701	C 4	3720	E 4	3743	A 4	3767	B 4	3788	E 5	7702	C 2		



8702 B 1
8703 B 1
8704 B 1
8706 B 1

+T - 10.5V

7702

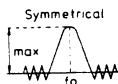
- 1 - 1.2V
- 2 - 0V
- 3 - 2.5V
- 4 - 0V
- 5 - 0V
- 6 - 10.2V
- 7 - 2.5V
- 8 - 0V
- 9 - 1.2V

7701

- 1 - 0V
- 2 - 5.2V
- 3 - 9.3V
- 4 - 5.0V
- 5 - 5.0V
- 6 - 0V
- 7 - 0.3V
- 8 - 5.0V
- 9 - 0V
- 10 - 5.0V
- 11 - 5.0V
- 12 - 9.3V
- 13 - 5.2V
- 14 - 10.0V

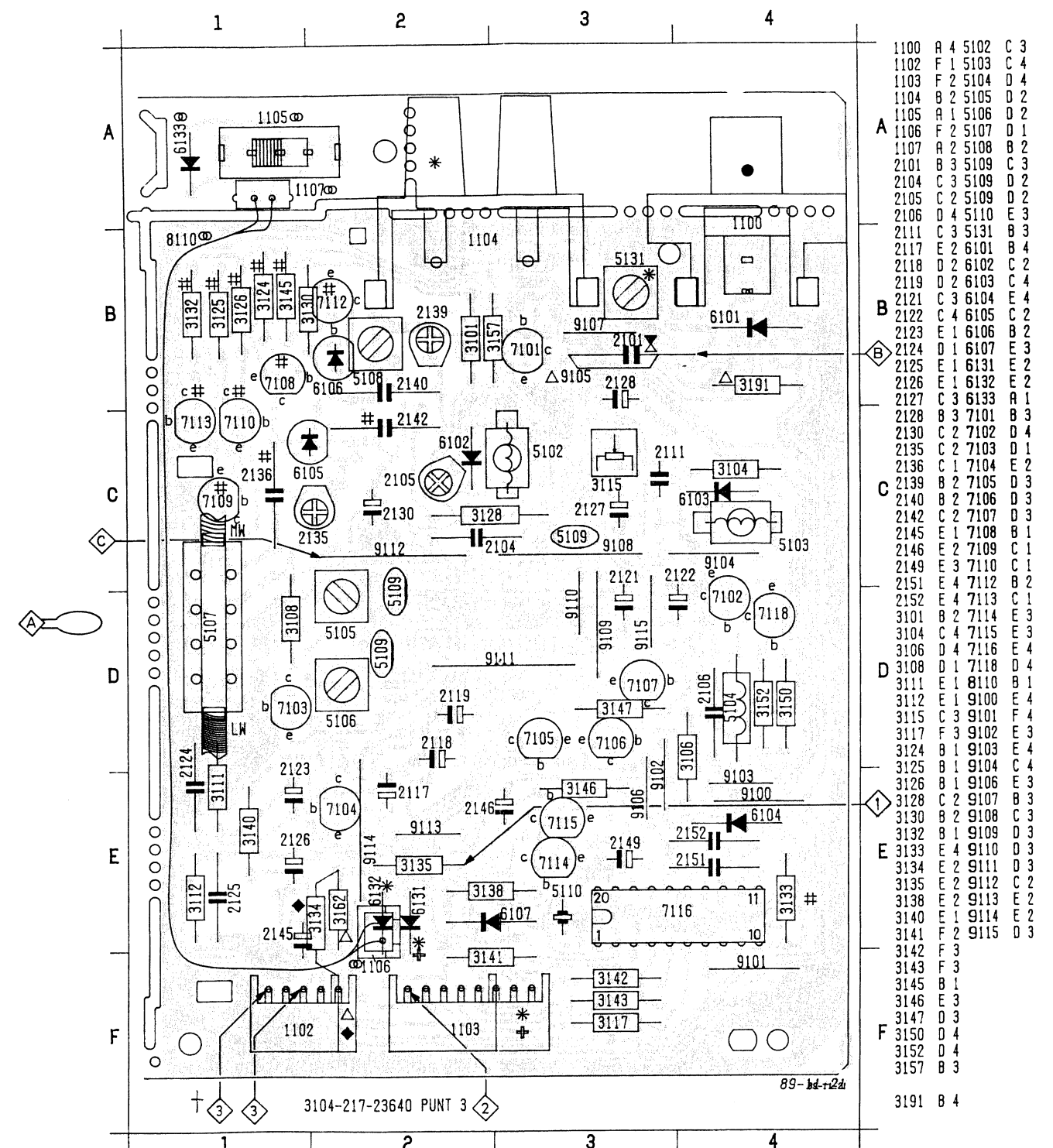
7712

- e - 0V
- b - 0.9V
- c - 9.5V

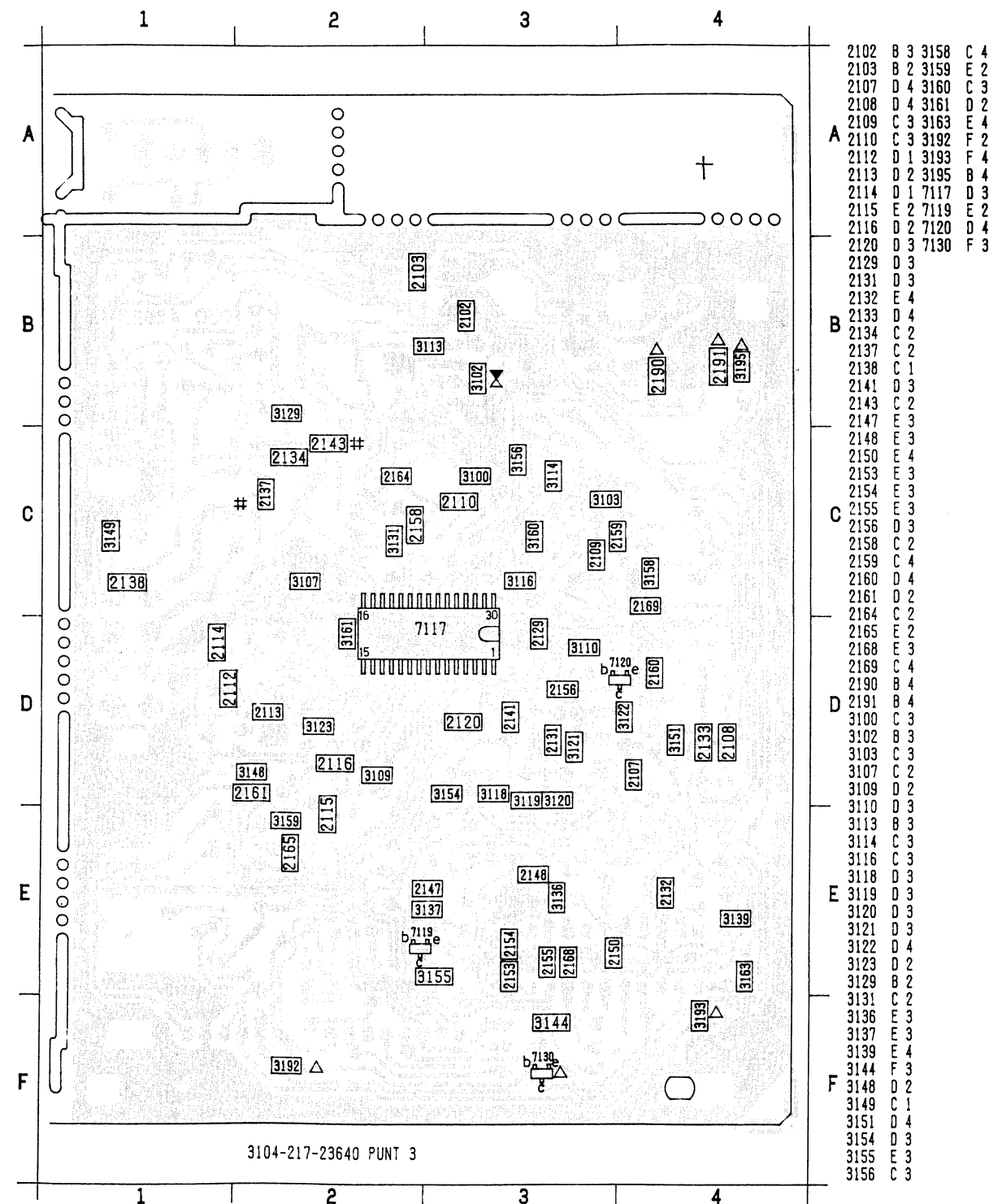
SK...	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5-108MHz			108MHz 87.5MHz	5103 check	1	8V 2.9V +/- 0.3V 8.5V 8.5V
LW 148-284KHz			284KHz	5108		
MW 522-1611KHz			1611KHz	2139		
FM-RF						
FM	87.5MHz mod = 1KHz $\Delta f = 22.5\text{KHz}$	B	87.5MHz	5102	3	max.
	108MHz mod = 1KHz $\Delta f = 22.5\text{KHz}$		108MHz	2105		
Stereo decoder						
FM	98MHz carrier 1mV	B	98MHz	3115	2	76 +/- 0.2KHz
AM-IF						
MW	450KHz \$ $\Delta f = 10\text{KHz}$ (50Hz)	C	522KHz	5106	3	
				5105		
AM-RF						
LW *	200KHz		155KHz	5110	3	max.
MW *	558KHz	A	603KHz	5110		
	1494KHz		1494KHz	2151		

* Mod = 1KHz 30% AM
\$ via 100nF

Repeat



△: ONLY FOR AUTOSTORE SETS (AS9600)
 X: NOT FOR AUTOSTORE SETS
 *: ONLY FOR /17 UNITS
 ●: NOT FOR /17
 #: NOT FOR /01 /10 AND /17 UNITS
 †: ONLY FOR /10 UNITS
 ◆: FOR EXTERNAL LOOP SUPPLY (AS9400)
 (AS9500)
 ⊕: ONLY FOR /01 UNITS



Δ: ONLY FOR AUTOSTORE SETS (AS9600)
 X: NOT FOR AUTOSTORE SETS
 *: ONLY FOR /17 UNITS
 #: NOT FOR /10 AND /17 UNITS
 +: ONLY FOR /10 UNITS

		7116	
		FM	AM
1	-	1.7V	1.7V
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	0.2V	4.9V
7	-	0V	0V
8	-	3.8V	0.2V
9	-	1.3V	0V
0	-	0.7V	0.7V
1	-	0.1V	0.1V
2	-	0.1V	0.1V
3	-	0.1V	1.8V
4	-	2.8V	0.1V
5	-	5.6V	5.7V
6	-	5.6V	5.7V
7	-	-	-
8	-	1.0V	1.0V
9	-	0V	0V
0	-	0.9V	0.9V

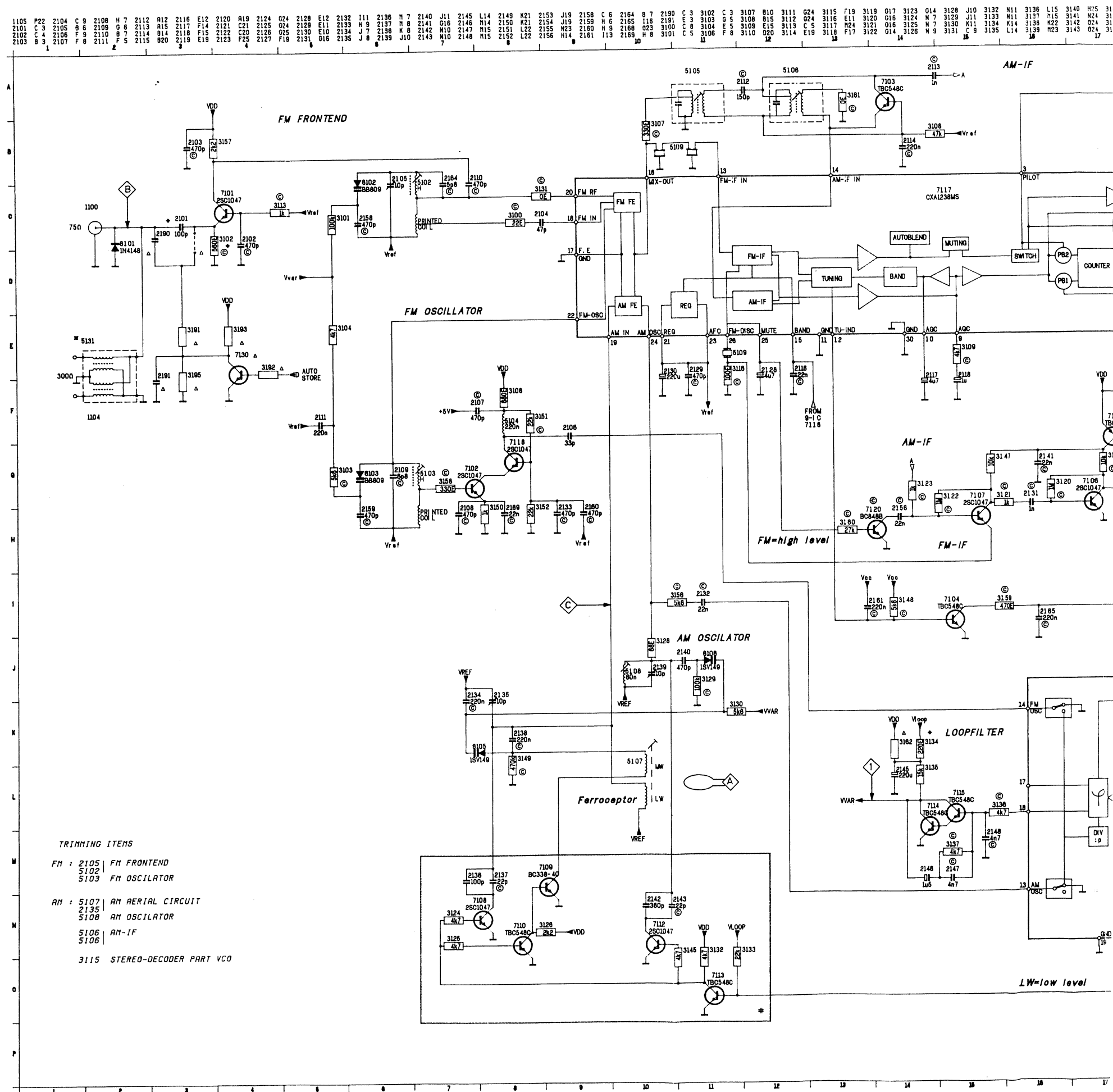
7117		
	FM	AM
1	- 0V	1.0V
2	- 1.4V	1.5V
3	- 0.2V	1.0V
4	- 3.2V	3.2V
5	- 2.4V	2.4V
6	- 2.4V	2.4V
7	- 7.4V	8.1V
8	- 3.8V	3.8V
9	- 1.4V	1.3V
10	- 1.0V	1.2V
11	- 0V	0V
12	- 0.1V	0.2V
13	- 1.3V	0V
14	- 0V	0V
15	- 1.3V	0V
16	- 0.2V	0V
17	- 0V	0V
18	- 0.3V	0V
19	- 1.2V	1.2V
20	- 1.2V	1.2V
21	- 1.2V	1.2V
22	- 1.2V	1.2V
23	- 1.2V	1.2V
24	- 1.2V	1.2V
25	- 0.2V	0V
26	- 3.2V	3.8V
27	- 1.4V	1.4V
28	- 1.6V	1.6V
29	- 1.0V	1.0V
30	- 0V	0V

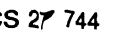
```
FM : 2105 | FM FRONTEND
      5102 |
      5103 | FM OSCILATOR

AM : 5107 | AM AERIAL CIRCUIT
      2135 |
      5108 | AM OSCILATOR

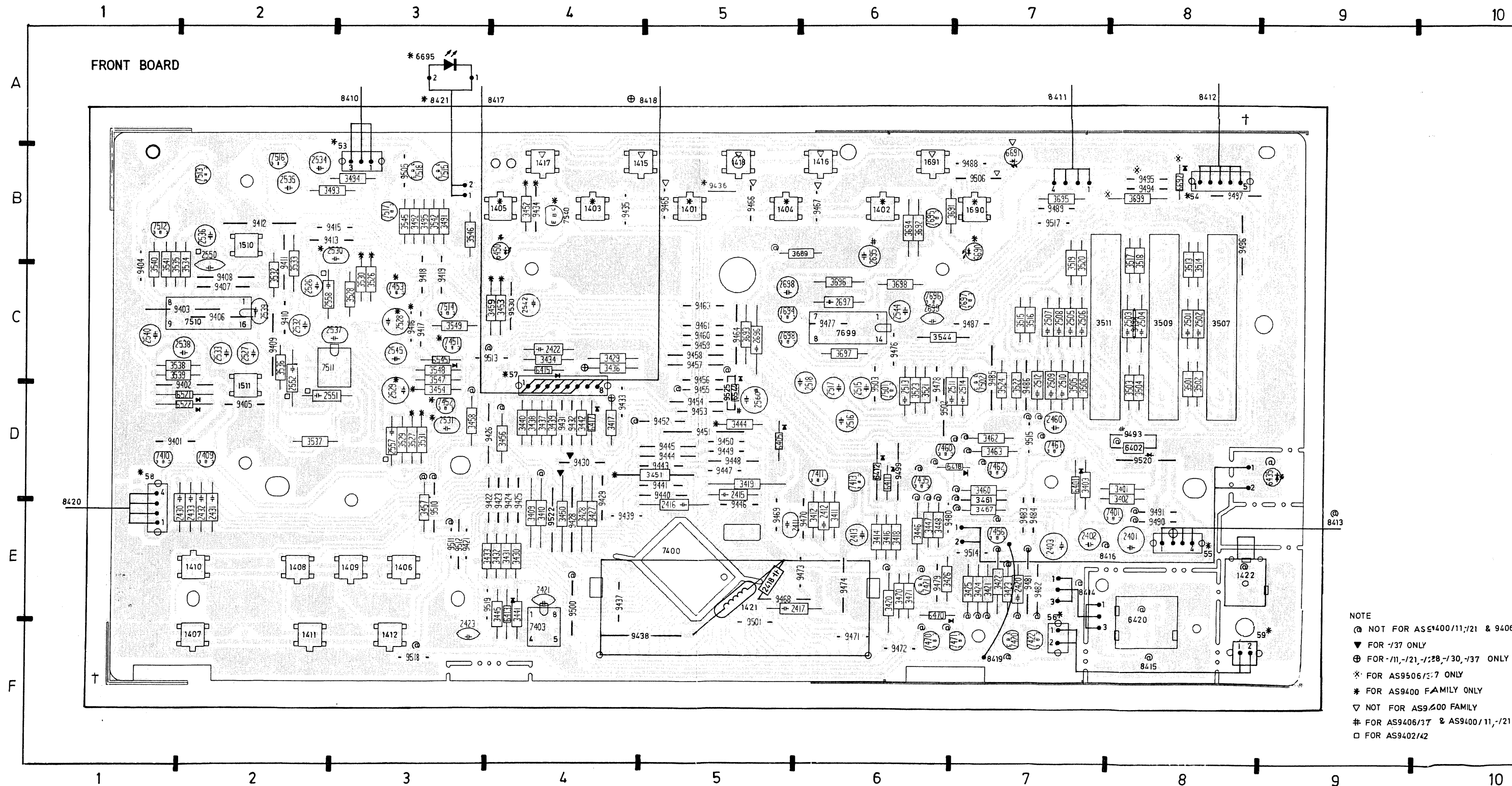
      5106 | AM-IF
      5106 |

3115 STEREO-DECODER PART VCO
```





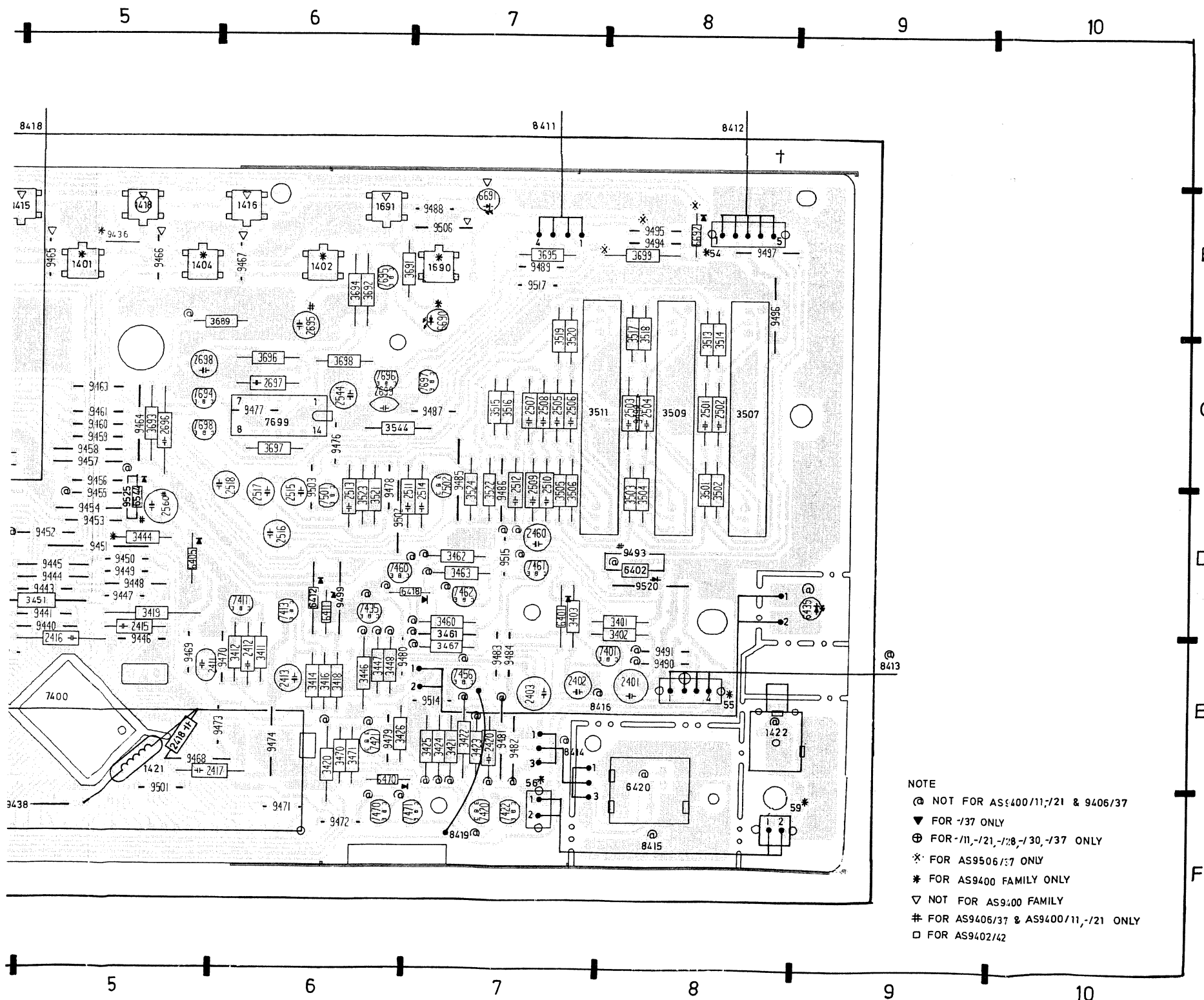
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54	B8	1412	F3	2417	E5	2508	C7	2534	B2	2699	C6	3425	E7	3445	E4	3470	E6	3516	C7	3535	C2	3695	B7	6522	D2	7456	E7	7696	C6	9403	C2	9423	E4	9447	D5	9468	E5	9488	B7	9511	E3
55	E8	1415	B4	2418	E5	2509	D7	2535	B2	3401	D8	3426	E7	3446	E6	3471	E6	3517	C8	3536	C2	3696	C6	6545	C3	7460	D7	7697	C7	9404	B1	9424	E4	9448	D5	9469	E5	9489	B7	9512	E3
56	E7	1417	B4	2420	E7	2510	D7	2536	B2	3402	D8	3427	E4	3447	E6	3491	B3	3518	C8	3537	D2	3697	C6	6690	B7	7461	D7	7698	C5	9405	D2	9425	E4	9449	D5	9470	E6	9490	E8	9513	C4
57	C4	1418	B5	2421	E4	2511	D7	2537	C2	3403	D7	3428	E4	3448	E6	3492	B3	3519	C7	3538	C2	3698	C6	6691	B7	7462	D7	7699	C6	9406	C2	9426	D4	9450	D5	9471	F6	9491	E8	9514	E7
58	D1	1421	E5	2422	C4	2512	D7	2538	C2	3409	E4	3429	C4	3450	E4	3493	B2	3520	C7	3539	C2	3699	D8	6692	B8	7470	F6	7700	A3	9407	C2	9428	E4	9451	D5	9472	F6	9493	D8	9515	D7
59	F9	1422	E8	2423	F3	2514	D7	2539	C2	3410	E4	3430	E4	3451	D5	3494	B3	3521	D6	3540	B1	6401	D7	6695	A3	7471	F7	7811	A7	9408	C2	9429	E4	9452	D5	9473	E6	9494	B8	9517	B7
1401	B5	1510	B2	2430	E2	2515	D6	2540	C1	3411	E6	3431	E4	3452	B4	3495	B3	3522	D7	3541	B1	6402	D8	7400	E5	7501	D6	8412	A8	9409	C2	9430	D4	9455	D5	9474	E6	9495	B8	9518	F3
	F2	1511	C2	2431	E2	2516	D6	2542	C4	3412	E6	3432	E4	3453	C4	3501	D8	3523	D6	3542	B3	6405	D5	7403	E4	7502	D7	8413	E9	9410	C2	9433	D4	9456	C5	9476	C6	9496	B8	9519	E4
1402	B6	1690	B7	2432	E2	2517	D6	2544	C6	3414	E6	3433	E4	3454	D3	3502	D8	3524	D7	3544	C7	6411	D6	7409	D2	7511	C2	8414	E7	9411	C2	9434	B4	9457	C5	9477	C6	9497	B8	9520	D8
1403	B4	1691	B6	2433	E2	2518	D6	2545	C3	3416	E6	3434	E4	3456	D4	3503	D8	3526	C3	3545	B3	6412	D6	7411	D6	7512	B1	8415	F8	9412	B2	9435	B4	9458	C5	9478	D6	9498	C8	9522	E4
1404	B5	2401	E8	2460	D7	2526	B2	2550	B2	3417	D4	3436	C4	3457	E3	3504	D8	3527	D3	3546	B3	6413	E4	7413	D6	7514	C3	8416	E7	9413	B2	9436	B5	9459	C5	9479	E6	9499	D6	9530	C4
1405	B4	2402	E7	2501	C8	2527	C2	2551	D2	3418	E6	3437	D4	3458	D3	3505	D7	3528	C3	3547	D3	6417	D4	7420	F7	7515	B3	8417	A4	9415	B2	9438	F4	9460	C5	9481	E7	9500	E4		
1406	E3	2403	E7	2502	C8	2528	C3	2552	C2	3419	D5	3438	D4	3459	C4	3506	D7	3529	D3	3548	C3	6418	D7	7421	E6	7516	C2	8418	A4	9416	C3	9439	E4	9461	C5	9482	E7	9501	E5		
1408	E2	2411	E5	2503	C8	2529	D3	2558	C2	3420	E6	3439	D4	3460	D7	3507	C8	3530	C3	3689	B5	6420	E8	7422	F7	7517	B3	8419	F7	9417	C3	9440	D5	9463	C5	9483	E7	9502	D7		
1409	E3	2412	E6	2504	C8	2530	B2	2695	C6	3421	E7	3440	D4	3461	E7	3509	C8	3531	D3	3691	B7	6435	D9	7435	D6	7518	B3	8420	D1	9418	C3	9441	D5	9464	C5	9484	E7	9503	D6		
1410	B6	2413	E6	2505	C7	2531	D3	2696	C5	3422	E7	3441	E4	3462	D7	3513	C8	3532	C2	3692	B6	6450	B4	7451	C3	7540	B4	8421	A3	9419	C3	9444	D5	9465	B5	9485	D7	9505	B3		
1410	E2	2415	D5	2506	C7	2532	C2	2697	C6	3423	E7	3442	D4	3463	D7	3514	C8	3533	C2	3693	C5	6470	E6	7452	D3	7694	C5	9401	D2	9421	E3	9445	D5	9466	B5	9486	D7	9506	B7		



E7	3515	C7	3534	C2	3694	B6	6521	D2	7453	C3	7695	B6	9402	C2	9422	E4	9446	E5	9467	B6	9487	C7	9510	E3
E6	3516	C7	3535	C2	3695	B7	6522	D2	7456	E7	7696	C6	9403	C2	9423	E4	9447	D5	9468	E5	9488	B7	9511	E3
E6	3517	C8	3536	C2	3696	C6	6545	C3	7460	D7	7697	C7	9404	B1	9424	E4	9448	D5	9469	E5	9489	B7	9512	E3
B3	3518	C8	3537	D2	3697	C6	6690	B7	7461	D7	7698	C5	9405	D2	9425	E4	9449	D5	9470	E6	9490	E8	9513	C4
B3	3519	C7	3538	C2	3698	C6	6691	B7	7462	D7	7699	C6	9406	C2	9426	D4	9450	D5	9471	F6	9491	E8	9514	E7
B2	3520	C7	3539	C2	3699	D8	6692	B8	7470	F6	8410	A3	9407	C2	9428	E4	9451	D5	9472	F6	9493	D8	9515	D7
B3	3521	D6	3540	B1	6401	D7	6695	A3	7471	F7	8411	A7	9408	C2	9429	E4	9452	D5	9473	E6	9494	B8	9517	B7
B3	3522	D7	3541	B1	6402	D8	7400	E5	7501	D6	8412	A8	9409	C2	9430	D4	9455	D5	9474	E6	9495	B8	9518	F3
D8	3523	D6	3542	B3	6405	D5	7403	E4	7502	D7	8413	E9	9410	C2	9433	D4	9456	C5	9476	C6	9496	B8	9519	E4
D8	3524	D7	3544	C7	6411	D6	7409	D2	7511	C2	8414	E7	9411	C2	9434	B4	9457	C5	9477	C6	9497	B8	9520	D8
D8	3526	C3	3545	B3	6412	D6	7411	D6	7512	B1	8415	F8	9412	B2	9435	B4	9458	C5	9478	D6	9498	C8	9522	E4
D8	3527	D3	3546	B3	6413	E4	7413	D6	7514	C3	8416	E7	9413	B2	9436	B5	9459	C5	9479	E6	9499	D6	9530	C4
D7	3528	C3	3547	D3	6417	D4	7420	F7	7515	B3	8417	A4	9415	B2	9438	F4	9460	C5	9481	E7	9500	E4		
D7	3529	D3	3548	C3	6418	D7	7421	E6	7516	C2	8418	A4	9416	C3	9439	E4	9461	C5	9482	E7	9501	E5		
C8	3530	C3	3689	B5	6420	E8	7422	F7	7517	B3	8419	F7	9417	C3	9440	D5	9463	C5	9483	E7	9502	D7		
C8	3531	D3	3691	B7	6435	D9	7435	D6	7518	B3	8420	D1	9418	C3	9441	D5	9464	C5	9484	E7	9503	D6		
C8	3532	C2	3692	B6	6450	B4	7451	C3	7540	B4	8421	A3	9419	C3	9444	D5	9465	B5	9485	D7	9505	B3		
C8	3533	C2	3693	C5	6470	E6	7452	D3	7694	C5	9401	D2	9421	E3	9445	D5	9466	B5	9486	D7	9506	B7		

+5 - 5V
+F - 8V
+G - 10.4V

7510	7401	7501	7502
1 - 0V	e - 5.2V	e - 0V	e - 0V
2 - 4.0V	b - 5.8V	b - 0.6V	b - 0.6V
3 - 4.0V	c - 9.7V	c - 4.0V	c - 4.0V
4 - 4.0V			
5 - 4.0V			
6 - 4.0V	7470	7471	
7 - 8.0V			
8 - 6.9V	e - 10.2V	e - 10.2V	
9 - 8.0V	b - 9.5V	b - 9.6V	
10 - 8.0V	c - 10.1V	c - 9.5V	
11 - 4.0V			
12 - 4.0V			
13 - 4.0V	7460		
14 - 4.0V	STBY ON	STBY OFF	
15 - 4.0V			
16 - 8.0V	e - 0V	0V	
	b - 0.7V	0V	
	c - 0V	17.9V	
7511			
1 - 4.0V	7461		
2 - 4.0V			
3 - 4.0V	STBY ON	STBY OFF	
4 - 0V			
5 - 4.0V			
6 - 4.0V	e - 4.5V	0V	
7 - 4.0V	b - 5.2V	0V	
8 - 8.0V	c - 5.6V	17.9V	
	7462		
	STBY ON	STBY OFF	
	e - 18.5V	18.0V	
	b - 17.7V	7.9V	
	c - 18.3V	9.5V	

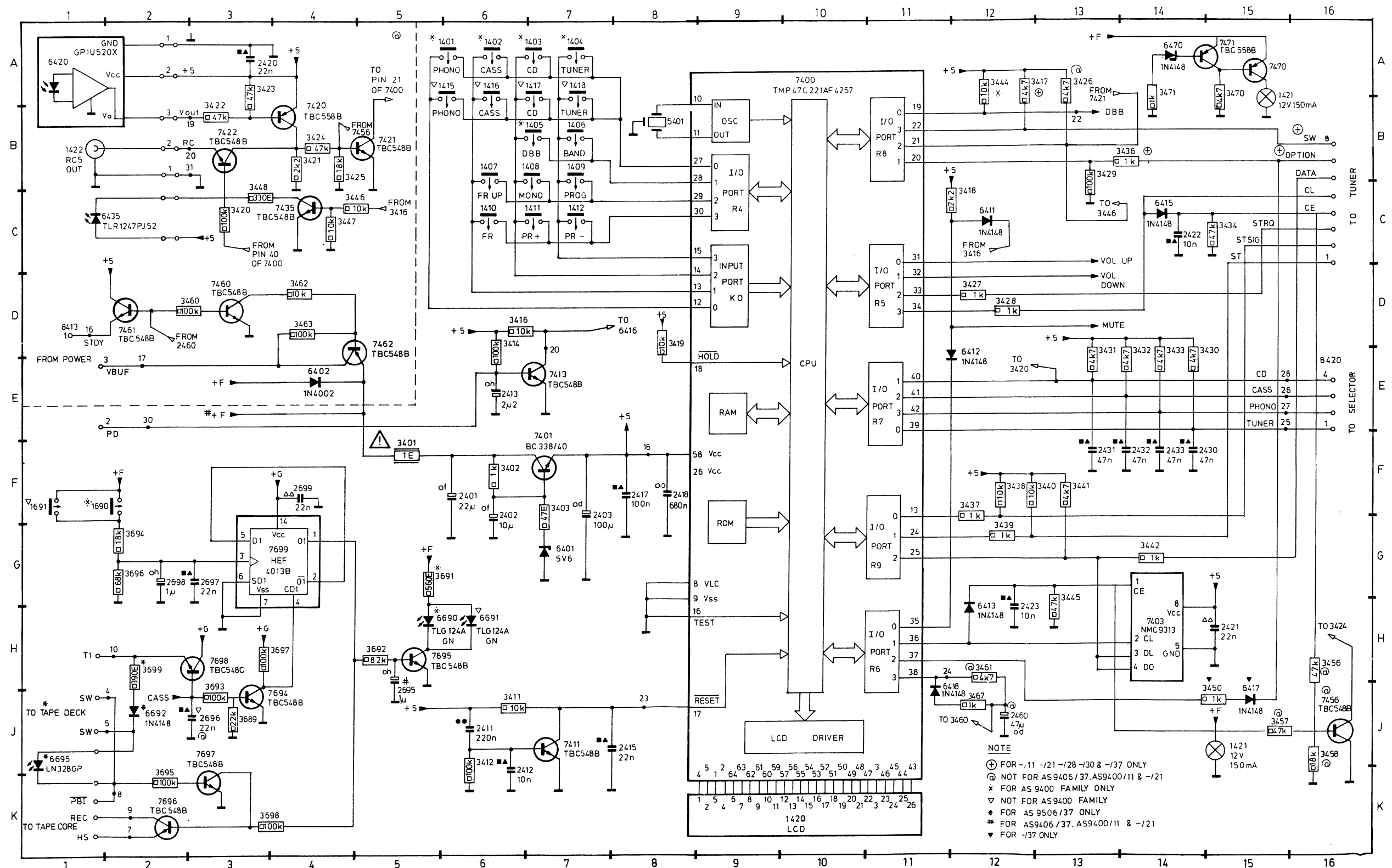


NOTE
 (A) NOT FOR AS400/111/21 & 9406/37
 ▼ FOR -137 ONLY
 ⊕ FOR -111, -121, -128, -130, -137 ONLY
 * FOR AS9506/137 ONLY
 * FOR AS9400 FAMILY ONLY
 ▽ NOT FOR AS9400 FAMILY
 # FOR AS9406/37 & AS9400/111, -121 ONLY
 □ FOR AS9402/42

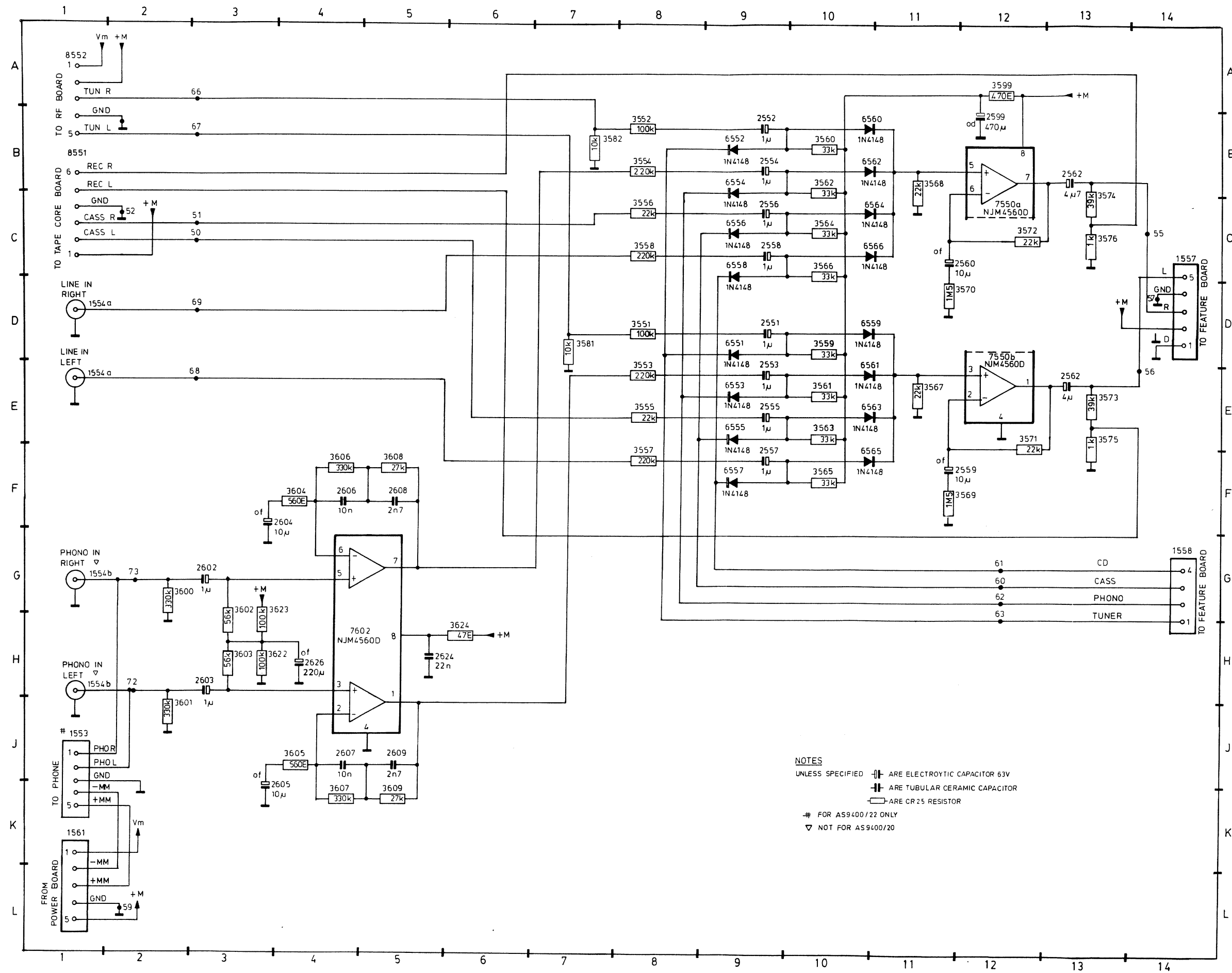
....V measured in tape position
 STBY ON measured in tape position with standby on
 STBY OFF measured in tape position with standby off

1401	A6	1415	A6	2412	J6	2460	J12	3417	A13	3430	E14	3444	A12	3463	C4	3697	H4	6417	J15	7413	E7	7696	K2
1402	A6	1416	A6	2413	E6	2695	H5	3418	C12	3431	E13	3445	G13	3465	C2	3698	K3	6418	J11	7420	A4	7697	J3
1403	A7	1417	A7	2415	J8	2697	G3	3419	D8	3432	E14	3446	C4	3467	J12	3699	H2	6435	C2	7421	B5	7698	H3
1404	A7	1418	A7	2418	F8	2698	G2	3421	B4	3433	E14	3447	C4	3470	A15	5401	B8	6470	A14	7435	C3	7699	G4
1405	B7	1421	A16	2419	E7	2699	F4	3422	A3	3434	C15	3448	B3	3471	A14	6401	G7	6690	H6	7456	J16	8413	D1
1406	B7	1422	B1	2420	A3	3401	F5	3423	A3	3436	B14	3450	J15	3689	J3	6402	E4	6691	H6	7460	D3		
1407	B6	1690	F1	2421	H15	3402	F6	3424	B4	3437	F12	3456	H16	3691	G6	6411	C12	6692	J2	7461	D2		
1408	B7	1691	F1	2422	C14	3403	F7	3425	B4	3438	F12	3457	J16	3692	H5	6412	E12	6695	J1	7462	D5		
1409	B7	2401	F6	2423	H12	3411	J6	3426	A13	3439	F12	3458	J16	3693	H3	6413	H12	7400	A10	7470	A15		
1410	C6	2402	F6	2431	F13	3412	J6	3427	D12	3440	F13	3460	D3	3694	G2	6414	K10	7401	E7	7471	A15		
1411	B7	2403	F7	2432	F14	3414	D6	3429	B13	3441	F13	3461	H12	3695	J2	6415	C14	7403	H14	7694	J4		
1412	B7	2411	J6	2433	F14	3416	D6	3430	F14	3442	G14	3462	D4	3696	G2	6416	C13	7411	J7	7695	H6		

FRONT BOARD DIAGRAM I

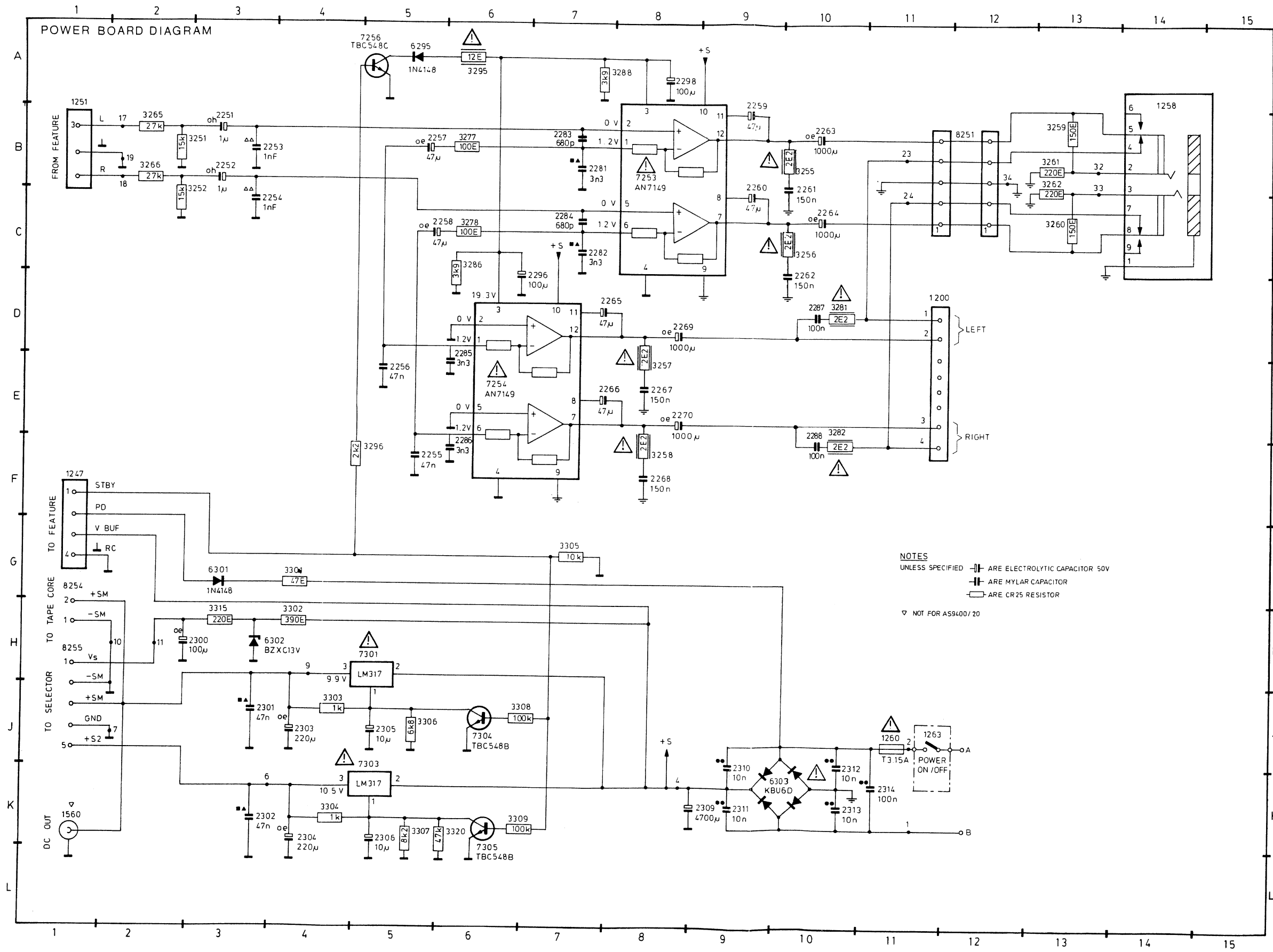


SELECTOR BOARD DIAGRAM



NOTES
UNLESS SPECIFIED: ARE ELECTROLYTIC CAPACITOR 63V
 ARE TUBULAR CERAMIC CAPACITOR
 ARE CR 25 RESISTOR
FOR AS9400/22 ONLY
▽ NOT FOR AS9400/20

1554a	D1	3603	H3
1554b	G1	3604	F4
1557	C14	3605	J4
1558	G14	3606	F4
1561	K1	3607	K4
2551	D9	3608	F5
2552	B9	3609	K5
2553	E9	3622	H3
2554	B9	3623	G3
2555	E9	3624	H6
2556	C9	6551	D9
2557	F9	6552	B9
2558	C9	6553	E9
2559	F12	6554	B9
2560	C12	6555	E9
2561	E13	6556	C9
2562	B13	6557	F9
2599	B12	6558	C9
2602	G3	6559	D10
2603	H3	6560	B10
2604	F3	6561	E10
2605	K3	6562	B10
2606	F4	6563	E10
2607	J4	6564	C10
2608	F5	6565	F10
2609	J5	6566	C10
2624	H6	7550a	C12
2626	H4	7550b	D12
3551	D8	7602	H5
3552	B8	8551	B1
3553	E8	8552	A1
3554	B8		
3555	E8		
3556	C8		
3557	F8		
3558	C8		
3559	D10		
3560	B10		
3561	E10		
3562	B10		
3563	E10		
3564	C10		
3565	F10		
3566	C10		
3567	E11		
3568	B11		
3569	F12		
3570	D12		
3571	E12		
3572	C12		
3573	E13		
3574	C13		
3575	E13		
3576	C13		
3581	D7		
3582	B7		
3599	A12		
3600	G2		
3601	J2		
3602	G3		



1200	D11	3265	B2
1247	F1	3266	B2
1251	A1	3277	B6
1258	A14	3278	C6
1260	J11	3281	D10
1263	J11	3282	E10
1560	K1	3286	C6
2251	B3	3288	A7
2252	B3	3295	A6
2253	B3	3296	F5
2254	C3	3301	G4
2255	F5	3302	H4
2256	E5	3303	J4
2257	B5	3304	K4
2258	C5	3305	G7
2259	A9	3306	J5
2260	B9	3307	K5
2261	B10	3308	J6
2262	C10	3309	K6
2263	B10	3315	H3
2264	C10	3320	K6
2265	D7	6295	A5
2266	E7	6301	G3
2267	E8	6302	H4
2268	F8	6303	K10
2269	D8	7253	B8
2270	E8	7254	E6
2281	B7	7256	A5
2282	C7	7301	H5
2283	B7	7303	K5
2284	C7	7304	J6
2285	E6	7305	K6
2286	F6	8251	B12
2287	D10	8254	G1
2288	E10	8255	H1
2296	D7		
2298	A8		
2300	H3		
2301	J3		
2302	K3		
2303	J4		
2304	K4		
2305	J5		
2306	K5		
2309	K9		
2310	J9		
2311	K9		
2312	K10		
2313	K10		
2314	K11		
3251	B2		
3252	B2		
3255	B10		
3256	C10		
3257	E8		
3258	F8		
3259	B13		
3260	C13		
3261	B13		
3262	B13		

NOTES
 UNLESS SPECIFIED: ARE ELECTROLYTIC CAPACITOR 50V
 ARE MYLAR CAPACITOR
 ARE CR25 RESISTOR
 ▽ NOT FOR AS9400/20

+M - 10.5V

+S - 19.6V

7550

- 1 - 4.0V
- 2 - 4.0V
- 3 - 4.0V
- 4 - 0V
- 5 - 4.0V
- 6 - 4.0V
- 7 - 4.0V
- 8 - 10.0V

7253/54

- 1 - 1.2V
- 2 - 0V
- 3 - 18.2V
- 4 - 0V
- 5 - 0V
- 6 - 1.2V
- 7 - 9.6V
- 8 - 17.3V
- 9 - 0V
- 10 - 19.6V
- 11 - 17.4V
- 12 - 9.4V

7602

- 1 - 5.2V
- 2 - 5.2V
- 3 - 5.2V
- 4 - 0V
- 5 - 5.2V
- 6 - 5.2V
- 7 - 5.2V
- 8 - 10.2V

7301

- 1 - 19.6V
- 2 - 10.1V
- 3 - 8.8V

7303

- 1 - 19.6V
- 2 - 10.5V
- 3 - 9.2V

7600

- e - 4.5V
- b - 4.3V
- c - 10.4V

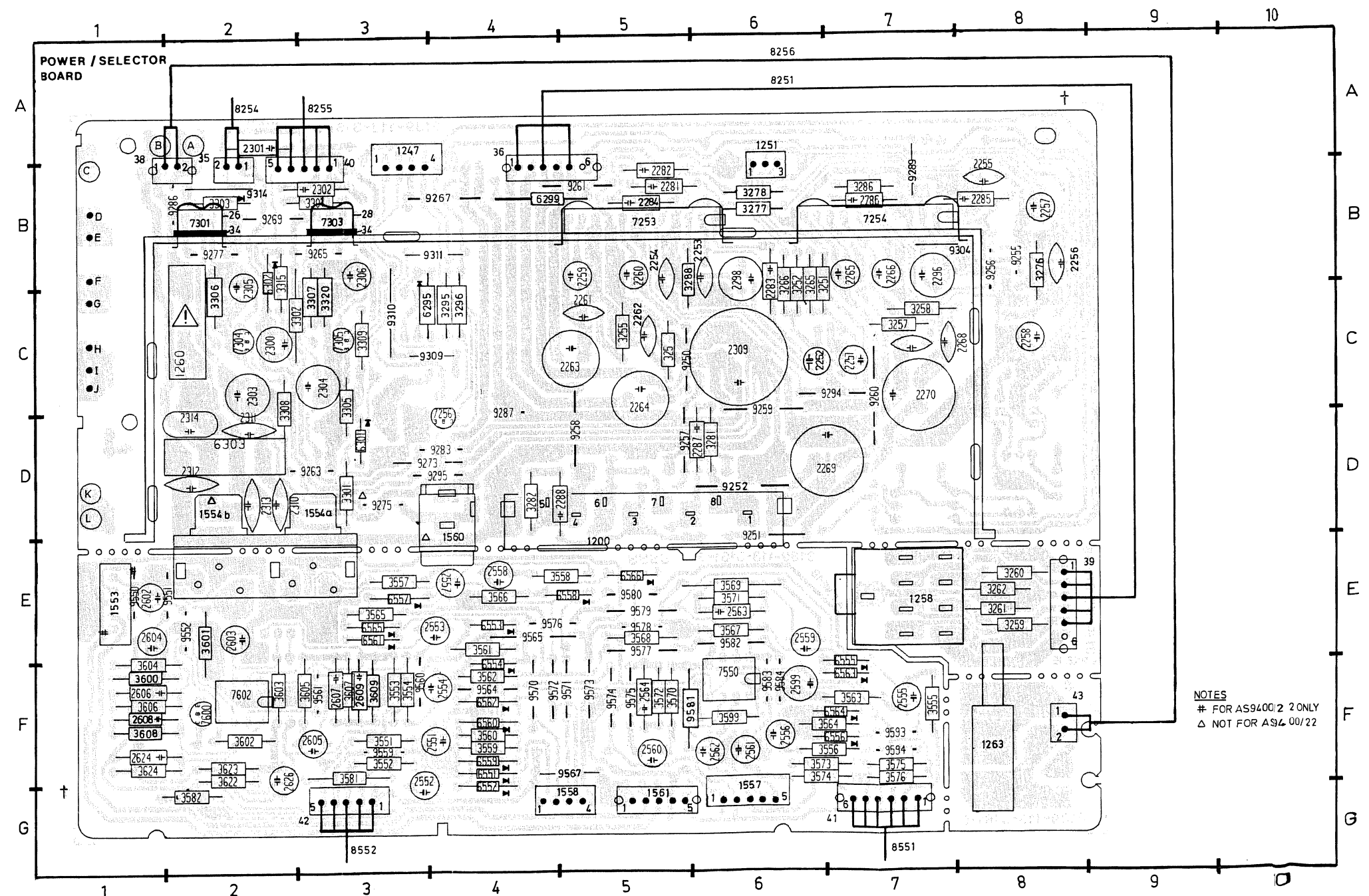
7601

- e - 4.3V
- b - 4.3V
- c - 10.4V

....V measured in tape position

___V measured in phone position

26 B2	2251 C7	2285 B8	2558 E4	3260 E8	3551 F3	3576 G7	6553 E4	8255 A3	9294 D7	9579 E5
27 E1	2252 C7	2286 B7	2559 F6	3261 E8	3552 G3	3581 G3	6554 F4	8256 A7	9295 D4	9580 E5
28 B3	2253 B6	2287 D6	2560 F5	3262 E8	3553 F3	3582 G2	6555 F7	8551 G7	9304 B7	9581 F6
34 B3	2254 B5	2288 D5	2561 G6	3265 C6	3554 F3	3599 F6	6556 F7	8552 G3	9309 C4	9582 F6
34 B2	2255 B8	2298 C6	2562 G6	3266 C6	3555 F7	3600 F1	6557 E3	8553 G3	9310 C3	9583 F6
35 B2	2256 B8	2300 C2	2563 E6	3276 C8	3556 G7	3601 F2	6558 E5	8554 G3	9311 B4	9584 F6
36 B4	2257 B8	2301 B2	2564 F5	3277 B6	3557 E3	3602 F2	6559 G4	8555 G3	9314 B2	9585 F6
38 B1	2258 C8	2302 B3	2565 F6	3278 B6	3558 E5	3603 F2	6560 F4	8556 G3	9314 B2	9586 F6
39 E8	2259 C5	2303 C2	2602 E1	3281 D6	3559 F4	3604 F1	6561 F3	8557 G3	9314 B2	9587 F6
40 A2	2260 C5	2304 C3	2603 F2	3282 D4	3560 F4	3605 F3	6562 F4	8558 G3	9314 B2	9588 F6
41 G7	2261 C5	2305 C2	2604 E1	3286 B7	3561 F4	3606 F1	6563 F7	8559 G3	9314 B2	9589 F6
42 G3	2262 C5	2306 C3	2605 F2	3288 C6	3562 F4	3607 F3	6564 F7	8560 G3	9314 B2	9590 F6
1200 E5	2263 C5	2309 C6	2606 E1	3295 C4	3563 F7	3608 F1	6565 E3	8561 G3	9314 B2	9591 F6
1247 A3	2264 D5	2310 D3	2607 F3	3296 C4	3564 F7	3609 F3	6566 E5	8562 G3	9314 B2	9592 F6
1251 A6	2265 C7	2311 D2	2608 F1	3301 D3	3565 E3	3622 G2	7253 B5	8563 G3	9314 B2	9593 F6
1258 E7	2266 C7	2312 D2	2609 F3	3302 C3	3566 E4	3623 G2	7254 B7	8564 G3	9314 B2	9594 F6
1260 B2	2267 C7	2313 D2	2624 F1	3303 B2	3567 E6	3624 G1	7255 D4	8565 G3	9314 B2	9595 F6
1263 G8	2268 C8	2314 D2	2626 G2	3304 B3	3568 F5	4343 F8	7301 B2	8566 G3	9314 B2	9596 F6
1553 E1	2269 C7	2551 F4	3251 C7	3305 D3	3569 E6	6295 C4	7303 B3	8567 G3	9314 B2	9597 F6
1554a D3	2269 D7	2552 G4	3252 C6	3306 C2	3570 F5	6299 B4	7304 C2	8568 G3	9314 B2	9598 F6
1554b D2	2270 D7	2553 E4	3255 C5	3307 C3	3571 E6	6301 D3	7305 C3	8569 G3	9314 B2	9599 F6
1557 G6	2281 B5	2554 F4	3256 C5	3308 D2	3572 F5	6302 C2	7550 F6	8570 G3	9314 B2	9600 F6
1558 G5	2282 B5	2555 F7	3257 C7	3309 C3	3573 G7	6303 D2	7602 F2	8571 G3	9314 B2	9601 F6
1560 E4	2283 C6	2556 F6	3258 C7	3315 C2	3574 G7	6551 G4	8251 A7	8572 G3	9314 B2	9602 F6
1561 G5	2284 B5	2557 E4	3259 E8	3320 C3	3575 G7	6552 G4	8254 A2	8573 G3	9314 B2	9603 F6



SELF-TEST PROCEDURE

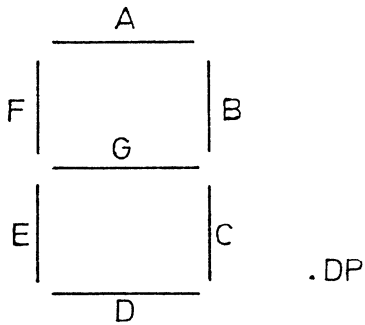
When holding the program-key and preset- up key down during power up the EEROM is loaded after which the display lights completey until both keys are released.

The loaded information are as follows:

Preset	Frequency			Band
		POL	USA	FM
0	87.50	65.00	87.5	
1	97.00	65.00	106.5	
2	98.00	65.00	87.5	
3	99.00	65.00	87.5	
4	108.00	65.00	87.5	
			USA	MW
5	522		530	
6	567		580	
7	603		620	
8	1278		1370	
9	1494		1610	
10	1611			LW
11	148			
12	155			
13	200			
14	275			
15	284			
		EUR		SW
16	3820	5820		
17	3900	5900		
18	11900	13900		
19	12100	14100		

LCD Display / uProcessor interconnection

COM2	COM1	LCD Pin	uProc Pin
7C	7D	26	43
7G	7E	25	44
7B	7F	24	45
6B	7A	23	46
5C	5D	22	47
5G	5E	21	48
5B	5F	20	49
KHZ	5A	19	50
4C	4D	18	51
4G	4E	17	52
4B	4F	16	53
LW	4A	15	54
3C	3D	14	55
3G	3E	13	56
3B	3F	12	57
SW	3A	11	59
2C	2D	10	60
2G	2E	9	61
2B	2F	8	62
1BC	2A	7	63
MW	MHZ,FM,DP	6	64
PROGR	AM	5	1
STEREO	6ADG	4	2
6E	6C	3	3
COM2	-	2	5
-	COM1	1	4



LCD Display

SWLW						STEREO		
MW						PROGR		
AM						kHz		
FM						mHz		
digit	1	2	3	4	5		6	7

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

	Carbon film 0.2 W CR16	70°C	5%
	Carbon film 0.33 W CR25	70°C	5%
	Carbon film 0.5 W CR37	70°C	5%
	Standard film 0.5 W SFR16T	70°C	5%
	Standard film 0.4 W SFR25	70°C	5%
	Metal film 0.6 W MRS25	70°C	5%
	Safety resistor		
	Plate ceramic Tuning < 120 pF Others	2%	-20/+80%
	Tubular ceramic		
	Polystyrene film / foil	1%	
	Polyestor Film / foil	10%	
	Mylar	10%	
	Electrolytic		
	Chip component		

* a = 2.5 V
b = 4 V
c = 6.3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
j = 100 V
l = 125 V
m = 150 V
n = 160 V
q = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1.6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

26338

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

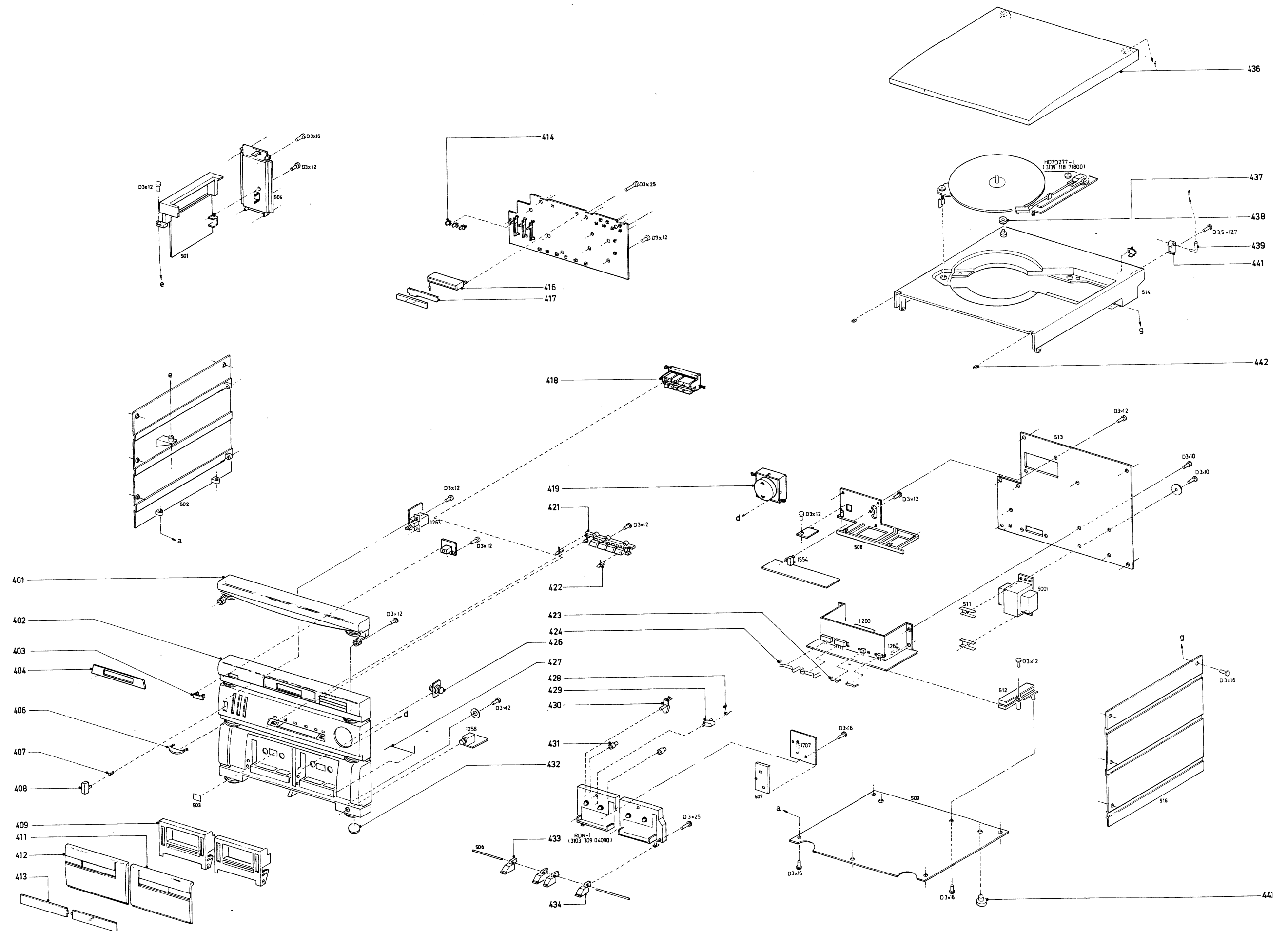
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.



401	4822	426	40415	416	4822	256	91477	430	4822	404	21073
402	4822	426	51407	417	4822	466	70666	431	4822	466	92641
403	4822	450	61524	418	4822	410	60584	432	4822	462	40683
404	4822	450	61533	419	4822	413	51332	433	4822	410	60551
406	4822	426	60577	421	4822	410	60609	434	4822	410	60552
407	4822	492	52128	422	4822	466	70678	436	4822	462	71635
408	4822	410	60553	423	4822	492	63051	437	4822	460	10589
409	4822	443	62936	424	4822	255	41035	438	4822	466	92642
411	4822	426	60576	426	4822	529	10251	439	4822	417	10631
412	4822	426	60575	427	4822	492	70732	441	4822	417	10631
413	4822	450	61516	428	4822	492	70426	442	4822	466	92643
414	4822	411	61677	429	4822	403	30772	443	4822	462	41535

IFU 4822 736 20583

MISCELLANEOUS				
1200	Socket speaker	4822	267	31176
1258	Socket headphone	4822	264	30236
1260	△ Fuse T3.15A	4822	253	30027
1263	Power switch	4822	276	12887
1401	Switch key	4822	276	12465
1402	Switch key	4822	276	12465
1403	Switch key	4822	276	12465
1404	Switch key	4822	276	12465
1405	Switch key	4822	276	12465
1406	Switch key	4822	276	12465
1407	Switch key	4822	276	12465
1408	Switch key	4822	276	12465
1409	Switch key	4822	276	12465
1410	Switch key	4822	276	12465
1411	Switch key	4822	276	12465
1412	Switch key	4822	276	12465
1420	LCD Display	4822	130	90816
1421	Lamp 12V 150mA	4822	134	40965
1422	Socket cinch	4822	267	31051
1510	Switch key	4822	276	12465
1511	Switch key	4822	276	12465
1554	Socket cinch	4822	267	30631
1690	Switch key	4822	276	12465
1707	Record switch	4822	277	20594
5109	Ceram Filter	4822	242	73546
5110	Crystal 7.2MHz	4822	303	50034
5401	Resonator	4822	242	73553
CAPACITORS				
2102	Chip 470pF	5322	122	32268
2103	Chip 470pF	4822	122	31727
2105	Trimmer 3-11pF	4822	125	60101
2107	Chip 470pF	5322	122	32268
2108	Chip 470pF	4822	122	31727

2109	Chip 6.8pF	5322	122	32269
2110	Chip 470pF	4822	122	31727
2112	Chip 150pF	4822	122	31808
2113	Chip 1nF	5322	122	34123
2114	Chip 220nF	4822	122	32927
2115	Chip 220nF	4822	122	32927
2116	Chip 22nF	4822	122	31797
2120	Chip 100nF	4822	122	33496
2123	Chip 470pF	5322	122	32268
2131	Chip 1nF	5322	122	34123
2132	Chip 22nF	5322	122	32654
2133	Chip 470pF	4822	122	31727
2134	Chip 220nF	4822	122	32927
2135	Trimmer 3-11pF	4822	125	60101
2136	PP 630V 100pF	4822	121	51288
2137	Chip 22pF	5322	122	32658
2138	Chip 220nF	4822	122	32927
2139	Trimmer 3-11pF	4822	125	60101
2140	PP 400V 470pF	5322	121	50999
2141	Chip 22nF	5322	122	32654
2142	PP 400V 360pF	4822	121	43253
2143	Chip 22pF	4822	122	32482
2147	Chip 4.7nF	4822	122	33339
2148	Chip 4.7nF	4822	122	33339
2150	Chip 22nF	5322	122	32654
2153	Chip 18pF	5322	122	32965
2154	Chip 15pF	5322	122	32481
2155	Chip 820pF	4822	122	33806
2156	Chip 22nF	5322	122	32654
2158	Chip 470pF	4822	122	31727
2159	Chip 470pF	5322	122	32268
2160	Chip 470pF	5322	122	32268
2161	Chip 220nF	4822	122	32927
2163	Chip 470pF	5322	122	32268
2164	Chip 5.6pF	5322	122	32967
2165	Chip 220nF	4822	122	32927
2166	Chip 470pF	4822	122	31727

RESISTORS			
3115	Preset 22k	4822 100 11213	
3140	△ 1/8W 300R	4822 050 23301	
3146	△ PRO01 150R	4822 053 10151	
3255	△ NFR25 2E2	4822 052 10228	
3256	△ NFR25 2E2	4822 052 10228	
3257	△ NFR25 2E2	4822 052 10228	
3258	△ NFR25 2E2	4822 052 10228	
3281	△ NFR25 2E2	4822 052 10228	
3282	△ NFR25 2E2	4822 052 10228	
3295	△ NFR25 12E	4822 052 10129	
3401	△ NFR25 1E	4822 111 30483	
3507	Potm 100KB X 2	4822 105 11051	
3509	Potm 100KB X 2	4822 105 11051	
3511	Potm 100KB X 2	4822 105 11051	
3544	△ NFR25 47E	4822 052 10479	
3778	△ NFR25 22E	4822 052 10229	
COILS			
5102	RF Coil	4822 156 30947	
5103	RF Coil	4822 156 30947	
5104	Coil	4822 157 53192	
5105	AM IF Coil	4822 158 60511	
5106	AM IF Coil	4822 158 60511	
5107	Ferroceptor	4822 526 10466	
5108	AM Osc Coil	4822 156 10459	
5300	△ Transfo, mains	4822 146 30862	
5701	820mH	4822 157 51238	
5702	820mH	4822 157 51238	
SEMICONDUCTORS			
6101	1N4148	4822 130 30621	
6102	BB8098	5322 130 31684	
6103	BB8098	5322 130 31684	
6104	1N4148	4822 130 30621	
6105	1SV149	4822 130 81673	
6106	1SV149	4822 130 81673	
6107	BZX79-C4V7	4822 130 34174	
6295	1N4148	4822 130 30621	
6301	1N4148	4822 130 30621	
6302	BZX79C13V	4822 130 34195	
6303	△ KUB4D	4822 130 80305	
6401	BZX79C5V6	4822 130 34173	
6402	1N4002	5322 130 30684	
6411	1N4148	4822 130 30621	
6412	1N4148	4822 130 30621	
6413	1N4148	4822 130 30621	
6415	1N4148	4822 130 30621	
6418	1N4148	4822 130 30621	
6420	IR GP2U520X	4822 130 81254	
6435	TLR124 RD	4822 130 31274	
6450	TLR124A GN	4822 130 32472	
6470	BZX79C12V	4822 130 34197	
6521	1N4148	4822 130 30621	
6522	1N4148	4822 130 30621	
6545	1N4148	4822 130 30621	

6551	1N4148	4822 130 30621	
6552	1N4148	4822 130 30621	
6553	1N4148	4822 130 30621	
6554	1N4148	4822 130 30621	
6555	1N4148	4822 130 30621	
6556	1N4148	4822 130 30621	
6557	1N4148	4822 130 30621	
6558	1N4148	4822 130 30621	
6559	1N4148	4822 130 30621	
6560	1N4148	4822 130 30621	
6561	1N4148	4822 130 30621	
6562	1N4148	4822 130 30621	
6563	1N4148	4822 130 30621	
6564	1N4148	4822 130 30621	
6565	1N4148	4822 130 30621	
6566	1N4148	4822 130 30621	
6690	TLR124A GN	4822 130 32472	
6701	1N4148-75	4822 130 30621	
6702	1N4148-75	4822 130 30621	
6705	1N4148-75	4822 130 30621	
6706	1N4148-75	4822 130 30621	
6707	1N4148-75	4822 130 30621	
6710	1N4148-75	4822 130 30621	
6712	1N4148-75	4822 130 30621	
7101	2SC1047	4822 130 60163	
7102	2SC1047	4822 130 60163	
7103	BC548C	4822 130 44196	
7104	BC548C	4822 130 44196	
7105	BC558C	5322 130 60068	
7106	2SC1047	4822 130 60163	
7107	2SC1047	4822 130 60163	
7108	2SC1047	4822 130 60163	
7109	BC338-40	5322 130 44779	
7110	BC548C	4822 130 44196	
7112	2SC1047	4822 130 60163	
7113	BC548C	4822 130 44196	
7114	BC548C	4822 130 44196	
7115	BC548C	4822 130 44196	
7116	LM7000	4822 209 71331	
7117	CXA1238M	4822 209 73851	
7118	2SC1047	4822 130 60163	
7119	BC848B	5322 130 41982	
7120	BC848B	5322 130 41982	
7253	△ AN7149N	4822 209 61999	
7254	△ AN7149N	4822 209 61999	
7256	TBC548C	4822 130 44196	
7301	△ LM317T	4822 209 80591	
7303	△ LM317T	4822 209 80591	
7304	TBC548B	4822 130 40937	
7305	TBC548B	4822 130 40937	
7400	TMP47C221-902-B	4822 209 62242	
7401	BC338-40	5322 130 44779	
7403	NMC9313BN	4822 209 60502	
7409	TBC548B	4822 130 40937	
7410	TBC548B	4822 130 40937	
7411	TBC548B	4822 130 40937	
7413	TBC548B	4822 130 40937	
7420	TBC558B	4822 130 44197	
7421	TBC548B	4822 130 40937	
7422	TBC548B	4822 130 40937	

7435	TBC548B	4822 130 40937	
7450	TBC558B	4822 130 44197	
7451	TBC548B	4822 130 40937	
7452	TBC549C	4822 130 44246	
7453	TBC549C	4822 130 44246	
7456	TBC548B	4822 130 40937	
7460	TBC548B	4822 130 40937	
7461	TBC548B	4822 130 40937	
7462	TBC558B	4822 130 44197	
7470	BC327-40	4822 130 41327	
7471	TBC558B	4822 130 44197	
7501	TBC549C	4822 130 44246	
7502	TBC549C	4822 130 44246	
7510	TC9153AP	4822 209 71337	
7511	NJM4560D	4822 209 83274	
7512	TBC548B	4822 130 40937	
7513	TBC548B	4822 130 40937	
7514	TBC558B	4822 130 44197	
7515	TBC548B	4822 130 40937	
7516	TBC548B	4822 130 40937	
7517	TBC548B	4822 130 40937	
7518	TBC548B	4822 130 40937	
7550	NJM4560D	4822 209 83274	
7602	NJM4560D	4822 209 83274	
7694	TBC548B	4822 130 40937	
7695	TBC548B	4822 130 40937	
7696	TBC548B	4822 130 40937	
7697	TBC548B	4822 130 40937	
7698	TBC548C	4822 130 44196	
7699	HEF4013BP	4822 209 10248	
7701	KA2224	4822 209 72491	
7702	1313HA	4822 209 70288	
7703	BC548B	4822 130 40937	
7704	BC548B	4822 130 40937	
7706	BC338/40	5322 130 44779	
7707	BC338/40	5322 130 44779	
7708	BC558B	4822 130 44197	
7709	BC548B	4822 130 40937	
7712	BC548C	4822 130 44196	
7713	BC558B	4822 130 44197	
7753	BC548B	4822 130 40937	
7756	BC338/40	5322 130 44779	
7757	BC338/40	5322 130 44779	

Service
Service
Service

For repair information of the Record Player
see Service Manual of Record Player HP7D283MQ-1

For repair information of the cassette mechanism
see Service Manual of Tape Transport RDN/RDR
General documentation and RDN-1

Service Manual

For Service information we refer to the manual
AS9400/22

AS9400/22R refers to AS9400/22

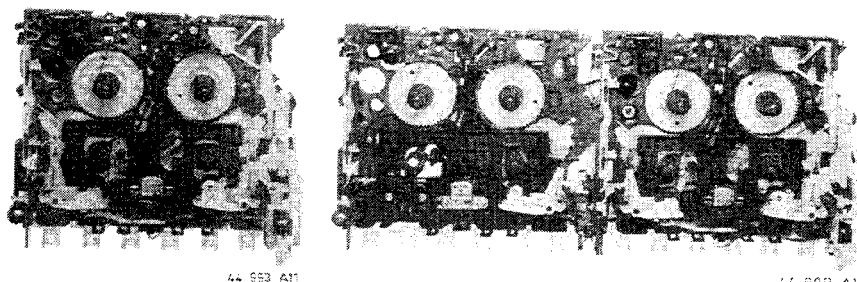


Service
Service
Service

Tape transport RN/RR

RDN/RDR

General documentation



Service Manual

(GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Belts
- Capstan
- Pressure roller

(F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Corroies
- Cabestan
- Galet presseur

(NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Snaren
- Toonas
- Drukrol

(D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Antriebsriemen
- Tonachse
- Andruckrolle

(I) MANUTENZIONE

E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

- Testina di cancellazione
- Testina di registrazione/riproduzione
- Cinghie
- Capstan
- Rullo preminastro

RN / RR - system:

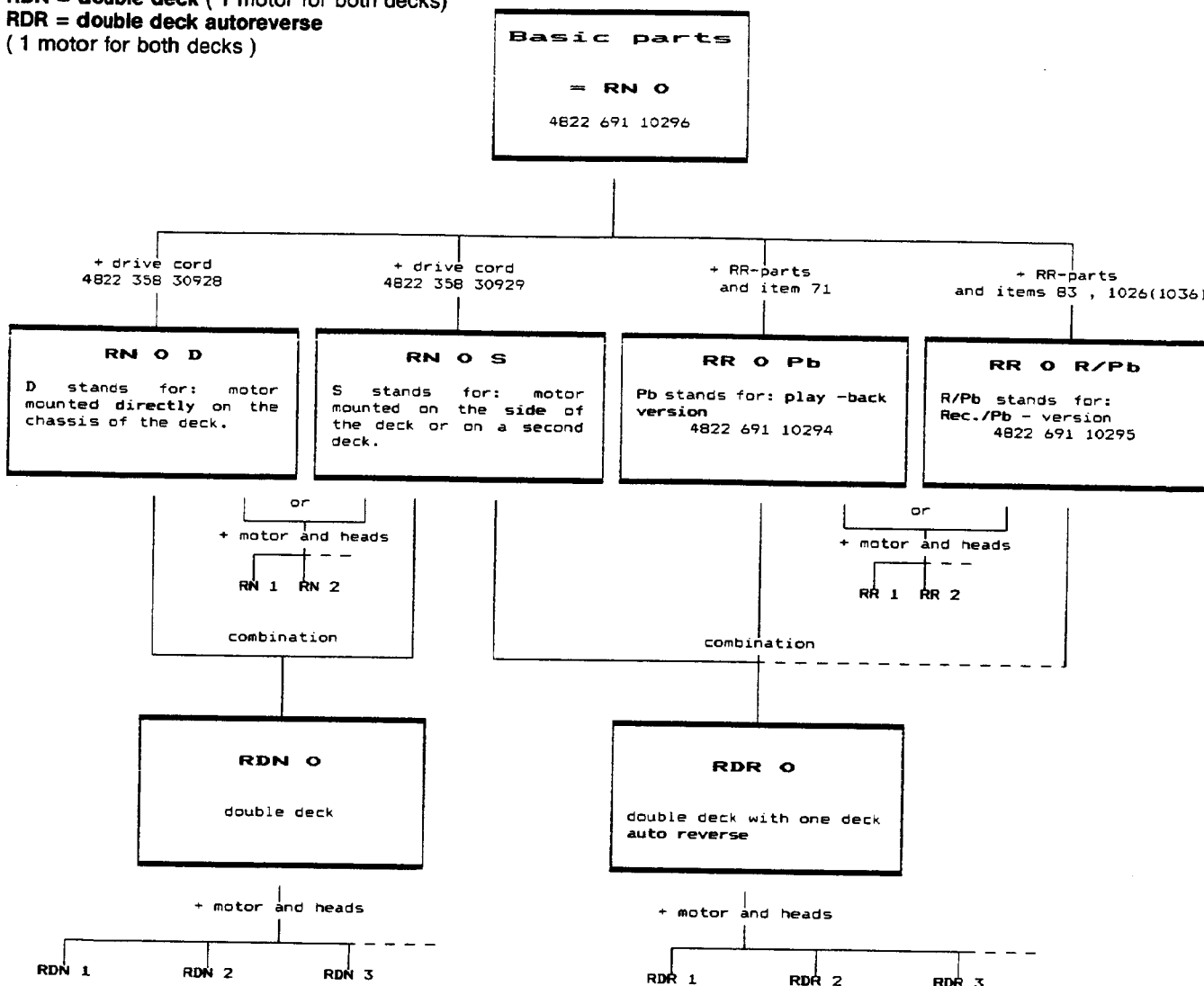
RN = single deck

RR = single deck autoreverse -

RDN = double deck (1 motor for both decks)

RDR = double deck autoreverse

(1 motor for both decks)



(GB)

Version 0 stands for deck without motor and heads. The various motors and heads give the various versions of tapetransports.

For codenumbers of motors and heads see separate manual of the corresponding tapetransport - version.

(F)

La version 0 correspond á une mécanique sans moteur ni têtes. Ce sont eu fait les différents moteurs et têtes qui sont de terminants pour le n° que porte une certaine version d'une mécanique.

Veillez vous reporter á la Documentation traitant d'un version précise en matière de codes des moteurs et des têtes.

(NL)

Versie 0 staat voor een loopwerk zonder motor en magneetkoppen. Der verschillende motors en koppen bepalen der verschillende loopwerkversies.

De codenummers van de motors en koppen zijn vermeld in de documentatie van de betreffende loopwerkversie.

(D)

Version 0 steht für : Laufwerk ohne Motor und Köpfe. Die verschiedenen Motoren und Köpfe bestimmen die verschiedenen Versionen der Laufwerke.

Die Codenummern der Motoren und Köpfe entnehmen Sie bitte der Dokumentation der betreffenden Version.

(I)

La versione 0 corrisponde ad un meccanismo privo di motore e testine. Infatti sono i motori e le testine che determinano il número di codice di una certa versione di un meccanismo.

Per quanto concerne i codici per motori e testine, riferirsi alla Documentazione de Servizio della versione precisa di cui si tratta.

SERVICE HINTS

GB DISMANTLING

- **Removal of the pressure roller 40+41 (76+73)**
Press locklug of headsupport aside and pull up lever 40 (73).
- **Removal of take up clutch 402**
Press locklugs apart (e.g. with a small pair of tweezers) and pull up 402.
- **Head support**
Cannot be removed because suppression spring 39 has to be assembled with a special tool which is not available in the workshops.

ADJUSTMENTS and CHECKS

- **Check of pressure roller force** against capstan:
The force of the pressure roller against the capstan should be 240 ± 30 p.
Measuring method:
Pb mode with arbitrary cassette. Push the pressure roller with a spring pressure gauge (4822 395 80028) away from the capstan – see fig.2
Read force just in that moment when tape travel stops. This pressure cannot be adjusted!
- **Take up clutch 402**
The torque can be measured with friction test cassette 4822 395 30054 in play mode.
Requirement:
take up torque: $40 - 65$ pcm
(permissible variation 5 pcm)
supplying reel: $2 - 4$ pcm
- **FF/REW torque**
Use friction testcassette 4822 395 30054
FF– or Rew – mode
Stop supplying reel by hand and read friction force – requirement: $55 - 90$ pcm
- **Check of tape travel and capstan adjustment:**
Use mirror cassette 4822 395 30058 in play mode.
If the tape moves up or down at the capstan the capstan has to be adjusted perpendicularly with the flywheel bearing 5.
The tape should travel straight and smoothly between the tapeguides and along the capstan. Small deviations in this pattern are permissible since their effect is negligible with a normal cassette.
Attention: In case of a reverse deck it is important to check tape travel in both directions after adjustment of the azimuth of the Rec./Pb – head – repeat if necessary.
For **adjustment of the azimuth** of the Rec./Pb – head and the **tape speed** refer to the concerning service manual of the set.

NL SERVICE-HINTS

DEMONTAGE

- **Verwijderen van aandrukrol 40+41 (76+73)**
Duw de vergrendellip van de kopsteun opzij en trek hefboom 40 (73) omhoog.
- **Verwijderen van opwikkelkoppeling 402**
Duw de vergrendellippen opzij (bijvoorbeeld met een klein pincet) en trek de koppeling 402 omhoog.
- **Kopsteun**
De kopsteun kan niet worden verwijderd omdat voor de montage van drukveer 39 een speciaal stuk gereedschap is vereist dat in een werkplaats niet voorhanden is.

AFSTELLINGEN en CONTROLES

- **Controleren van de kracht van de aandrukrol** tegen de kaapstander:
De druk van de aandrukrol tegen de kaapstander moet zijn 240 ± 30 p.
Meetmethode:
Plaats een willekeurige cassette en druk de weergavetoets in. Trek de aandrukrol met een veerdrukmeter (4822 395 80028) weg van de kaapstander – zie afbeelding 2.
Lees de waarde af precies op het moment dat de band stopt.
Deze druk kan niet worden bijgesteld.
- **Opwikkelkoppeling 402**
Het koppel kan worden gemeten met behulp van de frictietestcassette 4822 395 30054 in de weergavestand.
Eis:
opwikkelkoppel: $40 - 65$ pcm
(toegestane afwijking 5 pcm)
afwikkelspoel: $2 - 4$ pcm
- **koppel bij vooruit-/terugspoelen**
Gebruik frictietestcassette 4822 395 30054 in de stand vooruitspoelen of terugspoelen.
Houd de afwikkelspoel met de hand stil en lees de wrijvingskracht af – eis: $55 - 90$ pcm.
- **Controleren van bandtransport en kaapstander-instelling:**
Gebruik spiegelcassette 4822 395 30058 in de stand weergeven.
Als de band bij de kaapstander op en neer gaat, moet de kaapstander verticaal worden bijgesteld met behulp van vliegwiellager 5.
De band moet recht en soepel tussen de bandgeleiders langs de kaapstander lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar omdat het effect ervan bij een normale cassette te verwaarlozen is.
Aandacht: In geval van een deck dat zowel kan opnemen als weergeven, is het belangrijk om na de azimuthinstelling van de opname-/weergavekop het bandgeleiders in beide richtingen te controleren. Indien nodig de instelling herhalen.
Voor de **azimuthinstelling** van de weergave-/opnamekop en de **bandsnelheid** gelieve u de servicehandleiding van het betreffende apparaat te raadplegen.

F CONSEILS D'ENTRETIEN

DEMONTAGE

Démontage du galet presseur 40+41 (76+73) Poussez sur le côté la patte de serrage du support de la tête de lecture et remontez le levier 40 (73).

Démontage de la griffe enrouleuse 402

Poussez à l'écart les pattes de serrage (par exemple avec des pincettes) et tirez la griffe 402 vers le haut.

Support de tête de lecture

Ne peut être retiré car le ressort de suppression 39 doit être monté au moyen d'un outil spécial non disponible dans les ateliers.

REGLAGES ET VERIFICATIONS

- **Vérification de la pression des galets presseurs** contre le cabestan :
La pression exercée contre le cabestan doit être de 240 ± 30 p.
Méthode de mesure :
En mode lecture avec une cassette arbitraire.

Eloignez du cabestan le galet presseur avec un manomètre à ressorts (4822 395 80028)– Fig.2 Lisez la pression au moment où la bande cesse de défiler. Cette pression ne peut pas être réglée !

- Griffe enrouleuse 402

Le moment de torsion peut être mesuré à l'aide de la cassette de test à friction 4822 395 30054 en mode lecture.

Condition requise :

Moment de torsion de l'enrouleuse : 40–65 MIC

Variation autorisée : 5 MIC

Bobine débitrice : 2 – 4 MIC

- Moment de torsion FF/REW (bobinage rapide/rebobinage)

Utilisez la cassette de test à friction 4822 395 30054

Mode bobinage rapide ou rebobinage.

Arrêtez la bobine débitrice à la main et lisez la force de friction: 55 – 90 MIC exigés

- Contrôle du défilement de bande et du réglage du cabestan :

Utilisez la cassette à miroir 4822 395 30058 en mode lecture Si la bande se déplace vers le haut ou vers le bas du cabestan, vous devez ajuster le cabestan perpendiculairement avec le palier 5 du volant. La bande doit défiler en ligne droite et doucement entre les guides de bande. De faibles déviations de ce modèle sont autorisées car leur effet est négligeable avec une cassette conven- tionnelle.

Attention :

Dans le cas d'une platine cassette à inversion de défilement, il est très important de vérifier le défilement de bande dans les deux sens après le réglage de l'azimut de la tête de lecture/enregistrement.

Répétez cette opération si nécessaire.

Pour le réglage de l'azimut de la tête de lecture/enregistrement et la vitesse de bande, reportez-vous au manuel d'entretien correspondant.

D AUSBAU

- Andruckrolle 40+41 (76+73) entfernen:

Sperrzunge der Kopfträgerplatte zur Seite drücken und Hebel 40 (73) hochziehen.

- Aufwickelkupplung 402 entfernen:

Rasthaken auseinanderdrücken (z.B. mit spitzer Pinzette) und gleichzeitig 402 hochziehen.

- Kopfträgerplatte

Kann nicht ausgebaut werden, da Druckfeder 39 nur mit einem Spezialwerkzeug montiert werden kann.

EINSTELLUNGEN und KONTROLLEN

- Kontrolle des Anpreßrollendruckes

Der Druck der Anpreßrolle 41 (76) an die Tonachse soll 240 ± 30 p betragen.

Meßmethode: Stellung "play" mit beliebiger Kassette. Anpreßrolle mit einer Federwaage (4822 395 80028) – Ansetzpunkt siehe Fig. 2 – von der Tonachse wegdücken. Lesen Sie die Kraft in dem Moment ab, wenn der Bandtransport stoppt. Dieser Druck kann nicht eingestellt werden!

- Aufwickelrutschkupplung 402

Das Aufwickelmoment wird mit der Meßkassette 4822 395 30054 in Stellung "play" gemessen.

Anforderung:

Aufwickelmoment: 40 – 65 pcm

(zulässige Schwankung 5 pcm)

Gegenzug: 2 – 4 pcm

- FF / REW – Moment

Stellung "FF" bzw. "REW"

Meßkassette 4822 395 30054 verwenden.

Jeweiligen Abwickelteller mit der Hand blockieren und Moment ablesen.

Anforderung: 50 – 90 pcm

- Kontrolle des Bandlaufs und der Tonwelleneinstellung:

Verwenden Sie Spiegelkassette 4822 395 30058 in Stellung "play".

Wenn sich das Band an der Tonwelle nach oben oder unten bewegt, muß die Tonwelle mit dem Exzenterlager 5 senkrecht gestellt werden.

Das Band soll gerade und genau fluchtend zwischen den Bandführungen der Köpfe und an der Tonwelle entlang laufen. Geringe Abweichungen in diesem Bild sind zulässig, da sie bei einer normalen Kassette nicht beeinträchtigend wirken.

Achtung: Bei Reverse – Laufwerken ist es wichtig, nach Einstellung des Azimuths den Bandlauf in beiden Richtungen zu kontrollieren ----- falls notwendig, wiederholen.

Für Einstellung des Azimuths des REC/Pb –Kopfes und der Bandgeschwindigkeit siehe Servicedokumentation des betreffenden Gerätes.

I CONSIGLI DI SERVIZIO ASSISTENZA

SMONTAGGIO

- Smontaggio del rullino pressanastro 50+41 (76+73)

Spingere la linguetta di bloccaggio del supporto delle testine lateralmente e tirare in alto la leva 40 (73).

- Smontaggio dell'accoppiamento di avvolgimento 402

Spingere le linguette di bloccaggio lateralmente (p.e. con una piccola pinza) e tirare in alto l'accoppiamento 402.

- Supporto delle testine

Non è possibile smontare il supporto delle testine dato che lo smontaggio della molla di spinta 39 richiede un attrezzo speciale che non è disponibile in un'officina.

REGISTRAZIONI e CONTROLLI

- Controllo della forza del rullino pressanastro contro il rullino trainonastro:

La forza del rullino pressanastro contro il rullino trainonastro deve essere di 240 ± 30 p.

Metodo di misurazione:

Inserire una qualsiasi cassetta e premere il tasto di riproduzione. Allontanare il rullino pressanastro con un misuratore della pressione elicoidale (4822 395 80028) dal rullino trainonastro (fig. 2).

Leggere il valore proprio al momento che il nastro si arresta.

Non è possibile correggere questa pressione!

- Accoppiamento di avvolgimento 402

La coppia può essere misurata con l'aiuto della cassetta di controllo della frizione 4822 395 30054 nel modo di riproduzione.

Valori prescritti:

Coppia di avvolgimento: 40–65 pcm.

(tolleranza: 5 pcm)

Bobina di svolgimento : 2–4 pcm.

- Coppia di avvolgimento/riavvolgimento

Servirsi della cassetta di controllo della frizione 4822 395 30054 nel modo di avvolgimento o riavvolgimento.

Bloccare con la mano la rotazione della bobina di svolgimento e leggere la forza di frizione.

Valore prescritto: 55–90 pcm.

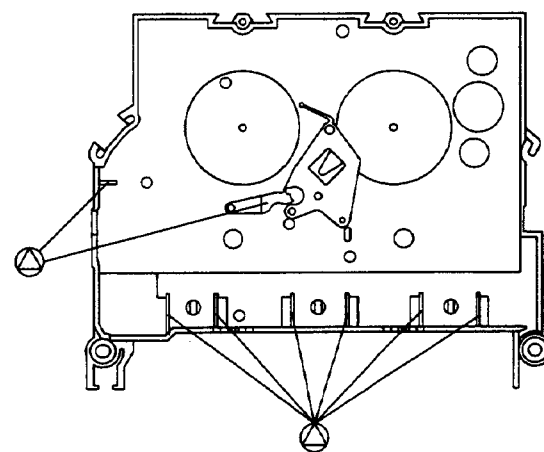
BASIC PARTS RN/RR-TAPE DECK

40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

RN0 (401)

BOTTOM VIEW OF CHASSIS WINDPLATE



- ⊙ LUBRICANT (MOBIL SHC 634) Item No. 48
- ⊙ GREASE (SHELL ALVANIA RS) Item No. 49
- ⊙ HANNOSIL-RELEASE AGENT M Item No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

- Controllo della regolazione del trasporto del nastro e del rullino trainonastro

Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.

Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volano 5.

Il nastro deve passare ben dritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

Attenzione: in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.

Per la registrazione dell'azimut della testina di registrazione/riproduzione e la velocità di trasporto del nastro, consultare il manuale di servizio assistenza dell'apparecchio in questione.

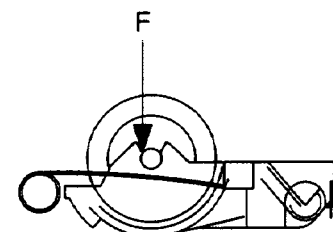
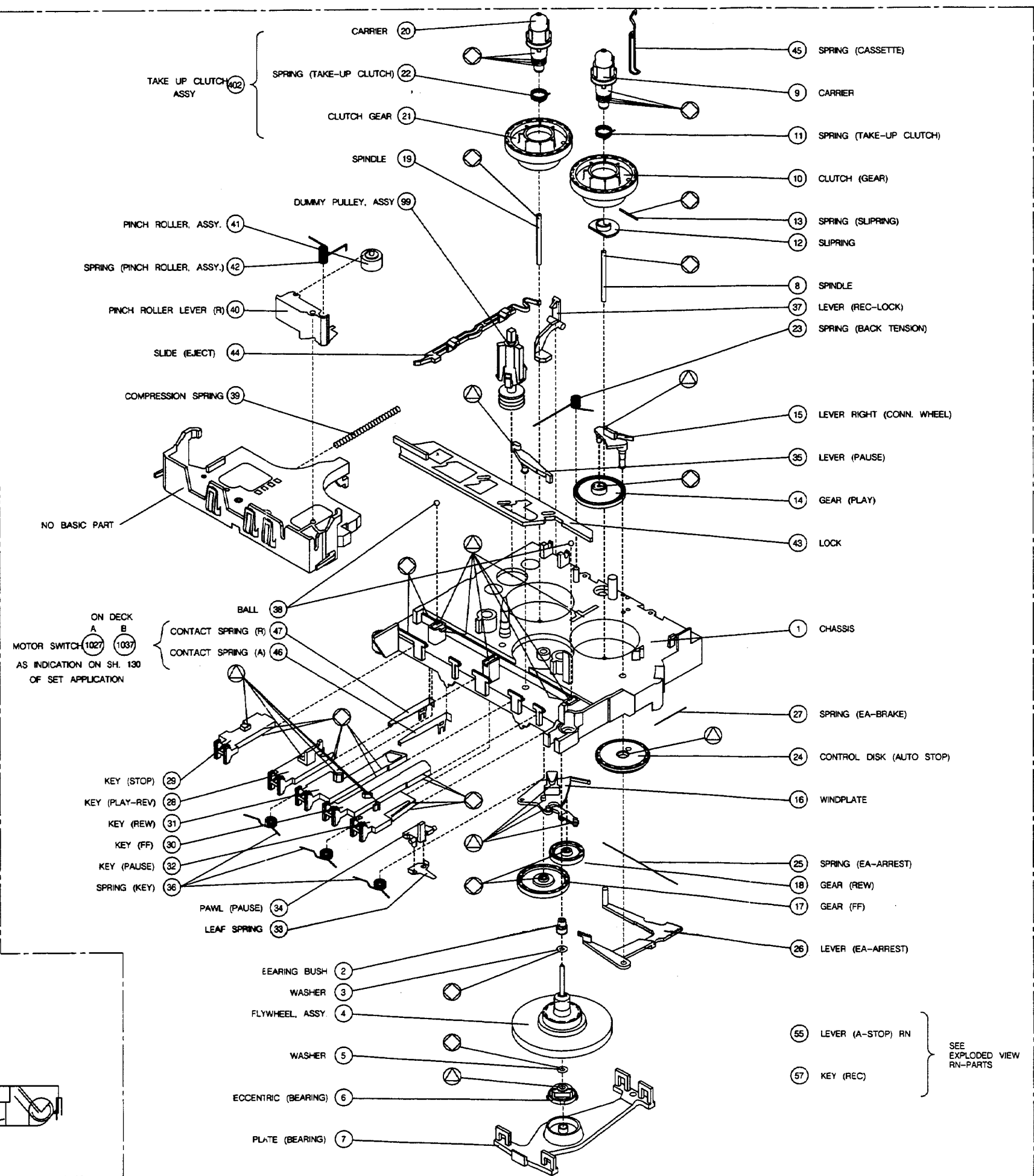
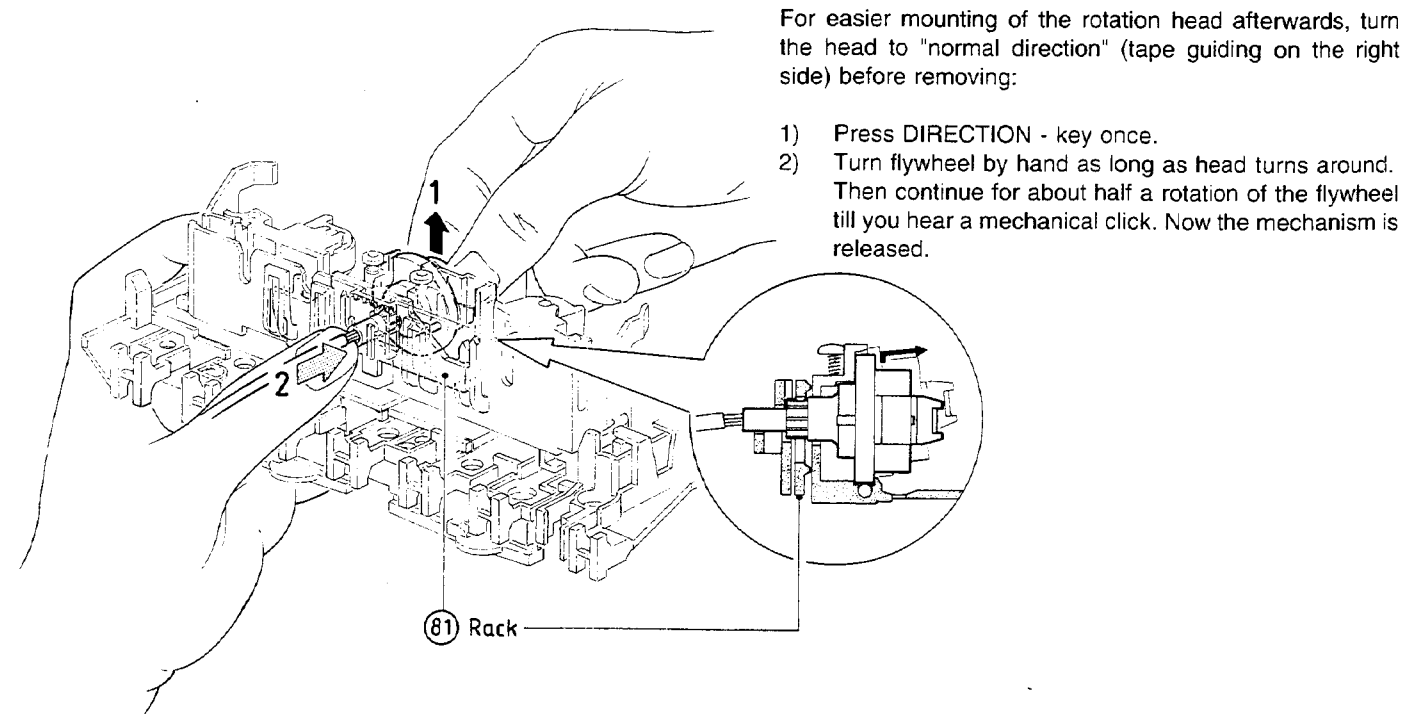


FIG 2

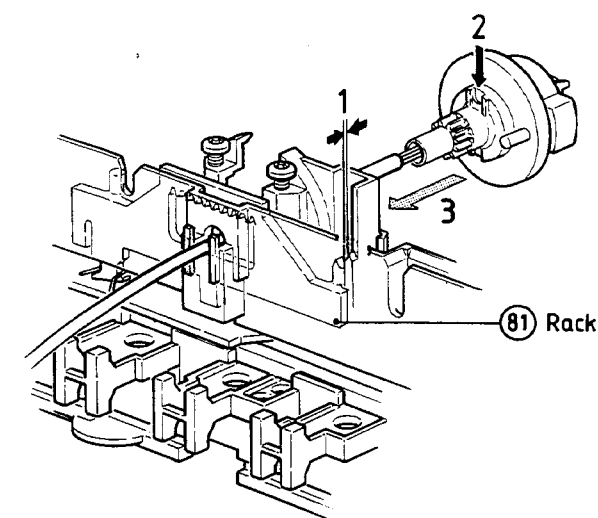
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REMOVAL OF ROTATION HEAD



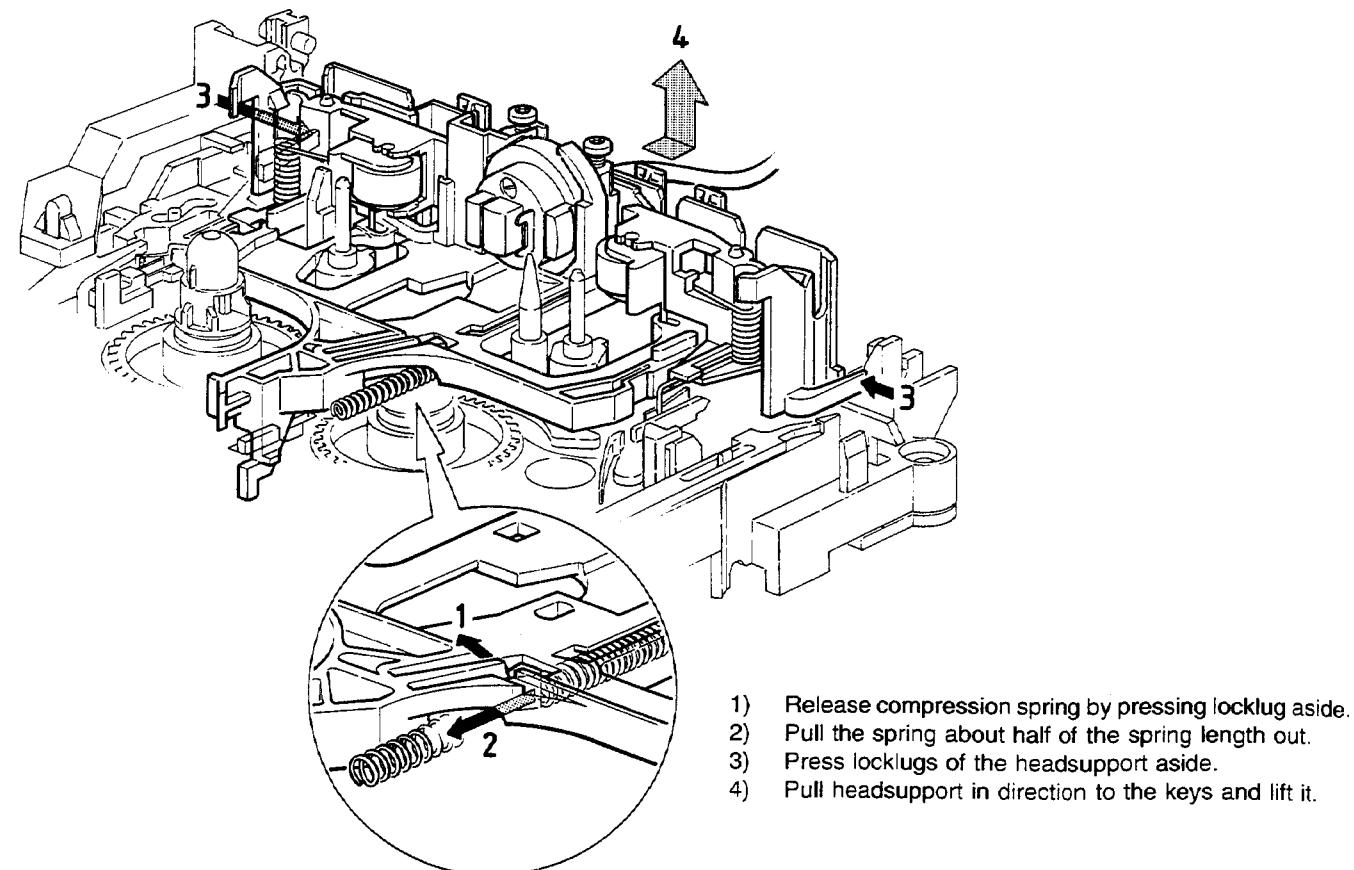
MOUNTING OF ROTATION HEAD



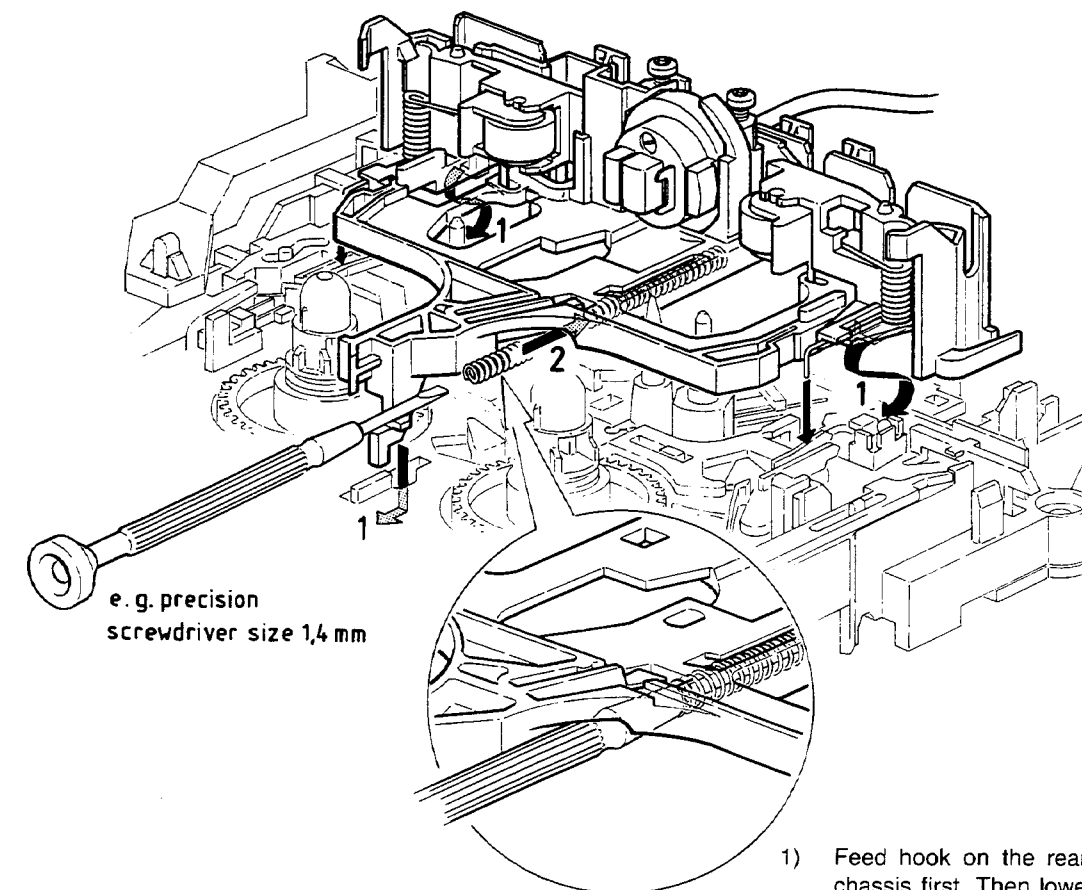
Rack pos.81 has to be aligned before mounting the rotation head:

- 1) Press DIRECTION - key once. Turn flywheel by hand as long as the alignment pin of rack pos.81 is in line with the alignment marking on the headsupport --> see sketch.
- 2) Hold the head in normal (horizontal) position - marking on the head is on top.
- 3) Snap head into headsupport. remark: If you follow the above instruction the teeth of the gear will fit together.
- 4) Change the direction as described under "removal of rotation head" and check if the rotation head turns to the correct position. If the head is not in horizontal position repeat and take care of exact alignment of rack pos.81 and horizontal position of the head while mounting.

REMOVAL OF HEADSUPPORT



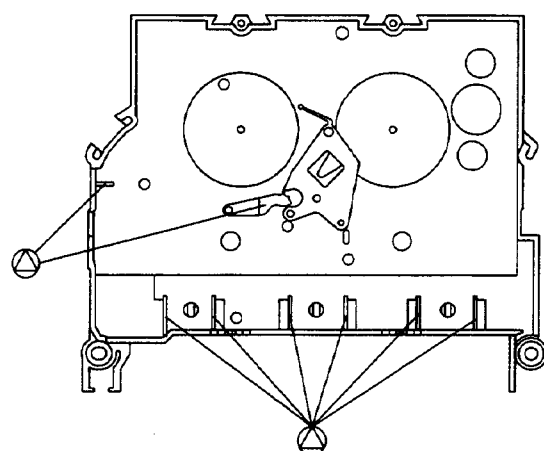
MOUNTING OF HEADSUPPORT



- 1) Feed hook on the rear of the headsupport into the chassis first. Then lower the front part to the chassis and press headsupport towards back until locklugs snap in. Attention: In case of a reverse deck take care of fitting the pinch roller pressing springs correctly into the guiding slots of the chassis.
- 2) Use a little screwdriver as a guiding and compress compression spring until locklug arrests.

BASIC PARTS RN/RR-TAPE DECK

BOTTOM VIEW OF CHASSIS WINDPLATE



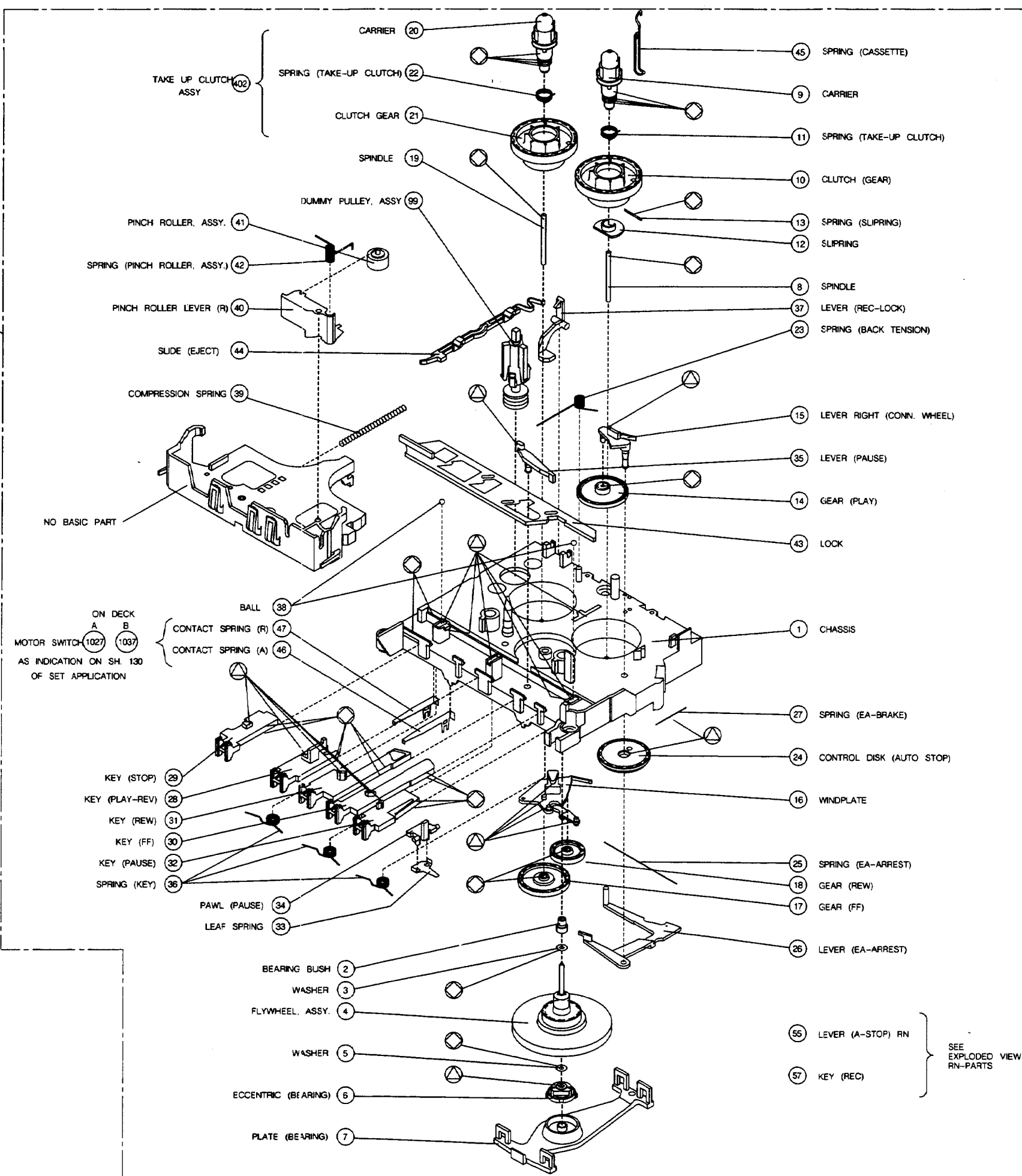
- ⊙ LUBRICANT (MOBIL SHC 634) term No. 48
- ⊙ GREASE (SHELL ALVANIA RS) term No. 49
- ⊙ HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

7	4822 520 10718	plate bearing
40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
43	4822 404 10853	slide, key locking
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

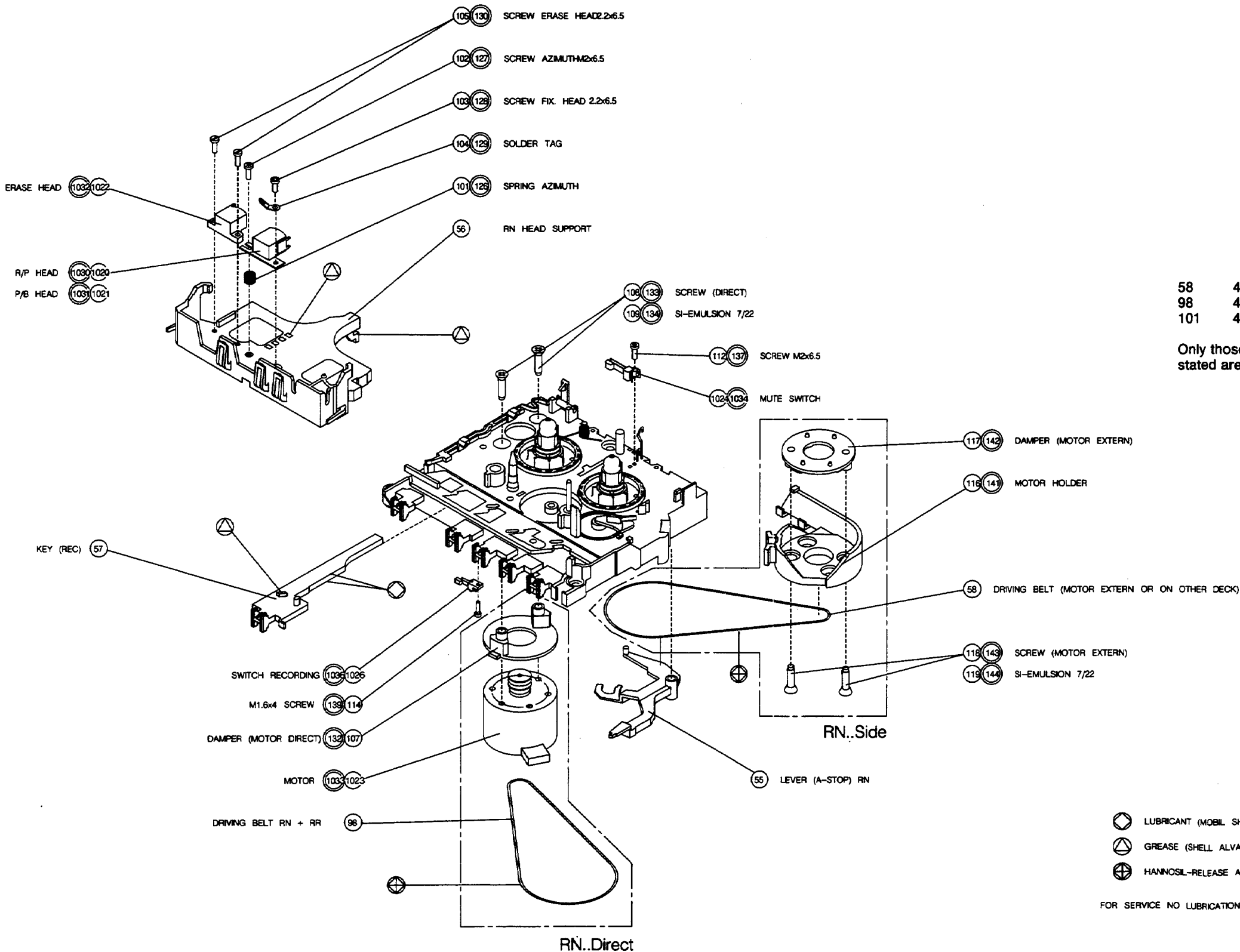
RN0 401



RN-PARTS
(additional to basic parts)

ITEM 100 TO 124 ON "DECK A"

ITEM 125 TO 149 ON "DECK B"



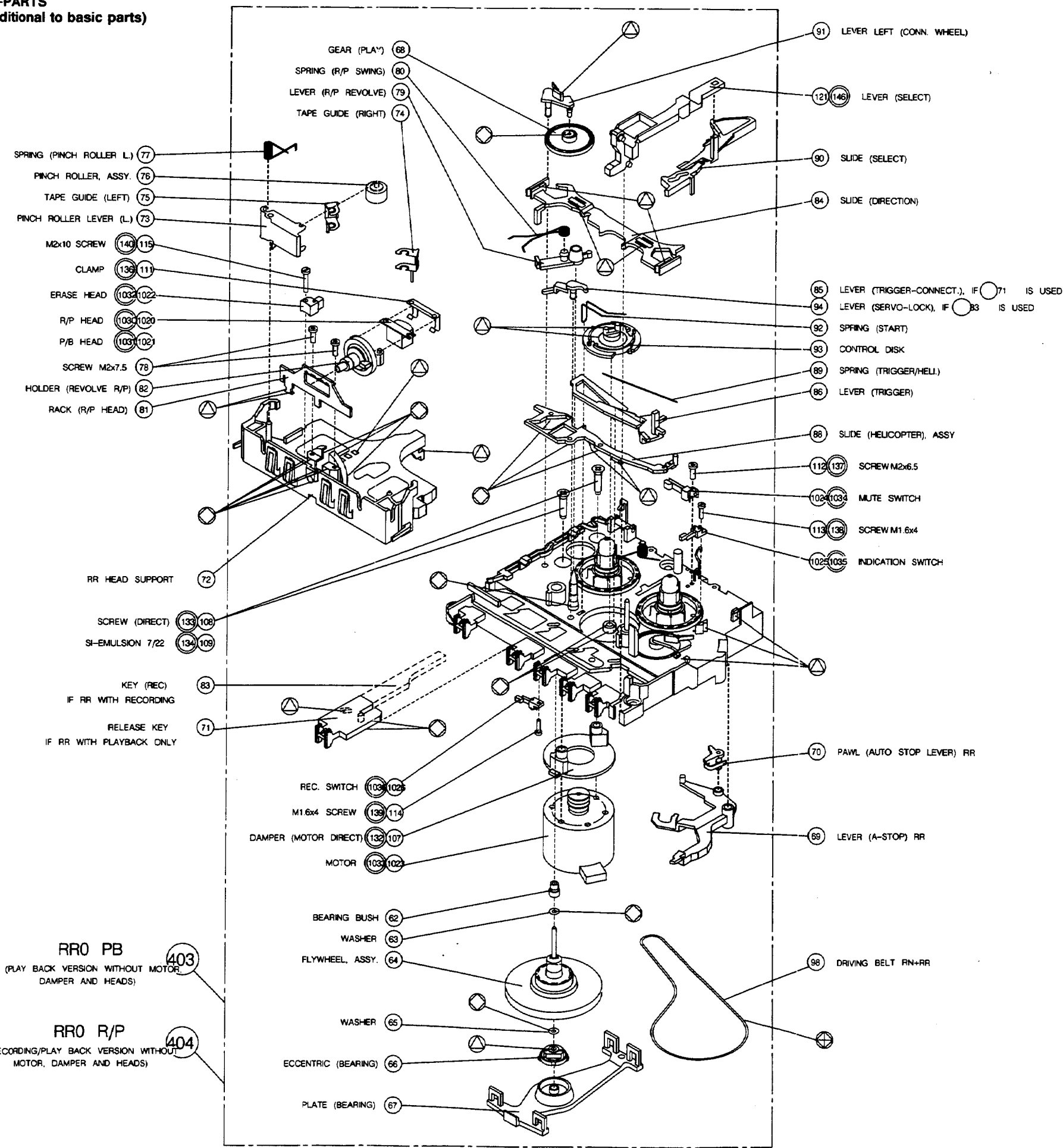
58	4822 358 30929	driving belt RN OS
98	4822 358 30928	driving belt RN OD
101	4822 492 51473	spring azimuth

Only those parts of which a service code number is stated are service parts.

- LUBRICANT (MOBIL SHC 634) term No. 48
- GREASE (SHELL ALVANIA RS) term No. 49
- HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

RR-PARTS
(additional to basic parts)



ITEM (100) TO (124) ON "DECK A"
ITEM (125) TO (149) ON "DECK B"

73	4822 402 10038	lever pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
76	4822 528 70646	pinch roller
111	4822 492 70393	spring head clamping
403	4822 691 10294	RR0 PB assy
404	4822 691 10295	RR0 R/P assy

Only those parts of which a service code number is stated are service parts.

- LUBRICANT (MOBIL SHC 634) term No. 48
- GREASE (SHELL ALVANIA RS) term No. 49
- HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

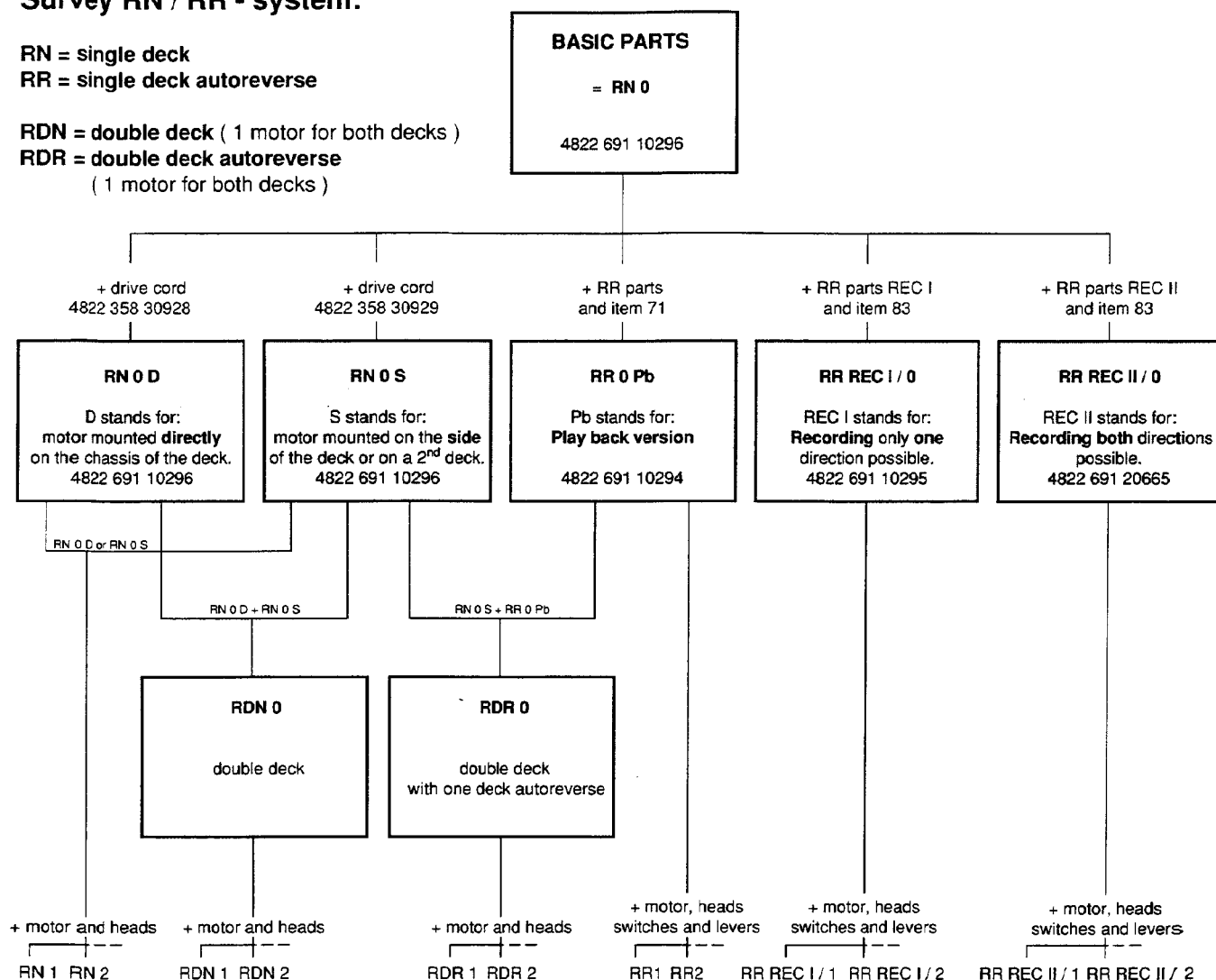
Survey RN / RR - system:

RN = single deck

RR = single deck autoreverse

RDN = double deck (1 motor for both decks)

RDR = double deck autoreverse
(1 motor for both decks)



☐ described in this general manual
for the various types of tape transports see separate manuals

GB

Version 0 stands for deck without motor and heads. The various motors and heads give the various versions of tapetransports.

For codenumbers of motors and heads see separate manual of the corresponding tapetransport – version.

F

La version 0 correspond á une mécanique sans moteur ni têtes. Ce sont eu fait les différents moteurs et têtes qui sont de terminants pour le n° que porte une certaine version d'une mécanique.

Veuillez vous reporter á la Documentation traitant d'un version précise en matière de codes des moteurs et des têtes.

NL

Versie 0 staat voor een loopwerk zonder motor en magneetkoppen. Der verschillende motors en koppen bepalen der verschillende loopwerkversies.

De codenummers van de motors en koppen zijn vermeld in de documentatie van de betreffende loopwerkversie.

D

Version 0 steht für : Laufwerk ohne Motor und Köpfe. Die verschiedenen Motoren und Köpfe bestimmen die verschiedenen Versionen der Laufwerke.

Die Codenummern der Motoren und Köpfe entnehmen Sie bitte der Dokumentation der betreffenden Version.

I

La versione 0 corrisponde ad un meccanismo privo di motore e testine. Infatti sono i motori e le testine che determinano il número di codice di una certa versione di un meccanismo.

Per quanto concerne i codici per motori e testine, riferirsi alla Documentazione de Servizio della versione precisa di cui si tratta.

SERVICE HINTS

GB DISMANTLING

- **Removal of the pressure roller 40+41 (76+73)**
Press locklug of headsupport aside and pull up lever 40 (73).
- **Removal of take up clutch 402**
Press locklugs apart (e.g. with a small pair of tweezers) and pull up 402.

ADJUSTMENTS and CHECKS

- **Check of pressure roller force** against capstan:
The force of the pressure roller against the capstan should be 240 ± 30 p.
Measuring method:
Pb mode with arbitrary cassette. Push the pressure roller with a spring pressure gauge (4822 395 80028) away from the capstan – see fig.2
Read force just in that moment when tape travel stops.
This pressure cannot be adjusted!
- **Take up clutch 402**
The torque can be measured with friction test cassette 4822 395 30054 in play mode.
Requirement:
take up torque: 40 – 65 pcm
(permissible variation 5 pcm)
supplying reel: 2 – 4 pcm
- **FF/REW torque**
Use friction testcassette 4822 395 30054
FF– or Rew – mode
Stop supplying reel by hand and read friction force – requirement: 55 – 90 pcm
- **Check of tape travel and capstan adjustment:**
Use mirror cassette 4822 395 30058 in play mode.
If the tape moves up or down at the capstan the capstan has to be adjusted perpendicularly with the flywheel bearing 5.
The tape should travel straight and smoothly between the tapeguides and along the capstan. Small deviations in this pattern are permissible since their effect is negligible with a normal cassette.
Attention: In case of a reverse deck it is important to check tape travel in both directions after adjustment of the azimuth of the Rec./Pb – head – repeat if necessary.

For **adjustment of the azimuth** of the Rec./Pb – head and the **tape speed** refer to the concerning service manual of the set.

NL SERVICE-HINTS

DEMONTAGE

- **Verwijderen van aandrukrol 40+41 (76+73)**
Duw de vergrendellip van de kopsteun opzij en trek hefboom 40 (73) omhoog.
- **Verwijderen van opwikkelkoppeling 402**
Duw de vergrendellippen opzij (bijvoorbeeld met een klein pincet) en trek de koppeling 402 omhoog.

AFSTELLINGEN en CONTROLES

- Controleren van de kracht van de aandrukrol tegen de kaapstander:
De druk van de aandrukrol tegen de kaapstander moet zijn 240 ± 30 p.
Meetmethode:
Plaats een willekeurige cassette en druk de weergavetoets in. Trek de aandrukrol met een veerdrukmeter (4822 395 80028) weg van de kaapstander – zie afbeelding 2.
Lees de waarde af precies op het moment dat de band stopt.
Deze druk kan niet worden bijgesteld.
- **Opwikkelkoppeling 402**
Het koppel kan worden gemeten met behulp van de frictietestcassette 4822 395 30054 in de weergavestand.
Eis:
opwikkelkoppel: 40 – 65 pcm
(toegestane afwijking 5 pcm)
afwikkelspoel: 2 – 4 pcm
- **koppel bij vooruit-/terugspoelen**
Gebruik frictietestcassette 4822 395 30054 in de stand vooruitspoelen of terugspoelen.
Houd de afwikkelspoel met de hand stil en lees de wrijvingskracht af – eis: 55 – 90 pcm.
- Controleren van bandtransport en kaapstander-instelling:
Gebruik spiegelcassette 4822 395 30058 in de stand weergeven.
Als de band bij de kaapstander op en neer gaat, moet de kaapstander verticaal worden bijgesteld met behulp van vliegwiellager 5.
De band moet recht en soepel tussen de bandgeleiders langs de kaapstander lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar omdat het effect ervan bij een normale cassette te verwaarlozen is.
Aandacht: In geval van een deck dat zowel kan opnemen als weergeven, is het belangrijk om na de azimuthinstelling van de opname-/weergavekop het bandtransport in beide richtingen te controleren.
Indien nodig de instelling herhalen.
Voor de azimuthinstelling van de weergave-/opnamekop en de bandsnelheid gelieve u de servicehandleiding van het betreffende apparaat te raadplegen.

F CONSEILS D'ENTRETIEN

DEMONTAGE

Démontage du galet presseur 40+41 (76+73) Poussez sur le côté la patte de serrage du support de la tête de lecture et remontez le levier 40 (73).

Démontage de la griffe enrouleuse 402
Poussez à l'écart les pattes de serrage (par exemple avec des pincettes) et tirez la griffe 402 vers le haut.

dans les ateliers.

REGLAGES ET VERIFICATIONS

- **Vérification de la pression des galets presseurs** contre le cabestan :
La pression exercée contre le cabestan doit être de 240 ± 30 p.
Méthode de mesure :
En mode lecture avec une cassette arbitraire.

Eloignez du cabestan le galet presseur avec un manomètre à ressorts (4822 395 80028)– Fig.2 Lisez la pression au moment où la bande cesse de défilér. Cette pression ne peut pas être réglée !

– **Griffe enrouleuse 402**

Le moment de torsion peut être mesuré à l'aide de la cassette de test à friction 4822 395 30054 en mode lecture.

Condition requise :

Moment de torsion de l'enrouleuse : 40–65 MIC

Variation autorisée : 5 MIC

Bobine débitrice : 2 – 4 MIC

– **Moment de torsion FF/REW (bobinage rapide/rebobinage)**

Utilisez la cassette de test à friction 4822 395 30054

Mode bobinage rapide ou rebobinage.

Arrêtez la bobine débitrice à la main et lisez la force de friction: 55 – 90 MIC exigés

– **Contrôle du défilement de bande et du réglage du cabestan :**

Utilisez la cassette à miroir 4822 395 30058 en mode lecture Si la bande se déplace vers le haut ou vers le bas du cabestan, vous devez ajuster le cabestan perpendiculairement avec le palier 5 du volant.

La bande doit défilér en ligne droite et doucement entre les guides de bande. De faibles déviations de ce modèle sont autorisées car leur effet est négligeable avec une cassette conven- tionnelle.

Attention :

Dans le cas d'une platine cassette à inversion de défilement, il est très important de vérifier le défilement de bande dans les deux sens après le réglage de l'azimut de la tête de lecture/enregistrement.

Répétez cette opération si nécessaire.

Pour le réglage de l'azimut de la tête de lecture/enregistrement et la vitesse de bande, reportez-vous au manuel d'entretien correspondant.

D AUSBAU

– **Andruckrolle 40+41 (76+73) entfernen:**

Sperrzunge der Kopfträgerplatte zur Seite drücken und Hebel 40 (73) hochziehen.

– **Aufwickelkupplung 402 entfernen:**

Rasthaken auseinanderdrücken (z.B. mit spitzer Pinzette) und gleichzeitig 402 hochziehen.

EINSTELLUNGEN und KONTROLLEN

– **Kontrolle des Anpreßrollendruckes**

Der Druck der Anpreßrolle 41 (76) an die Tonachse soll 240 ± 30 p betragen.

Meßmethode: Stellung "play" mit beliebiger

Kassette.Anpreßrolle mit einer Federwaage

(4822 395 80028) – Ansetzpunkt siehe Fig. 2 – von der Tonachse wegdrücken. Lesen Sie die Kraft in dem Moment ab, wenn der Bandtransport stoppt. Dieser Druck kann nicht eingestellt werden!

– **Aufwickelrutschkupplung 402**

Das Aufwickelmoment wird mit der Meßkassette 4822 395 30054 in Stellung "play" gemessen.

Anforderung:

Aufwickelmoment: 40 – 65 pcm

(zulässige Schwankung 5 pcm)

Gegenzug: 2 – 4 pcm

– **FF / REW – Moment**

Stellung "FF" bzw. "REW"

Meßkassette 4822 395 30054 verwenden.

Jeweiligen Abwickelteller mit der Hand blockieren und Moment ablesen.

Anforderung: 50 – 90 pcm

– **Kontrolle des Bandlaufs und der Tonwelleneinstellung:**

Verwenden Sie Spiegelkassette 4822 395 30058 in Stellung "play".

Wenn sich das Band an der Tonwelle nach oben oder unten bewegt, muß die Tonwelle mit dem Exzenterlager 5 senkrecht gestellt werden.

Das Band soll gerade und genau fluchtend zwischen den Bandführungen der Köpfe und an der Tonwelle entlang laufen. Geringe Abweichungen in diesem Bild sind zulässig, da sie bei einer normalen Kassette nicht beeinträchtigend wirken.

Achtung: Bei Reverse – Laufwerken ist es wichtig, nach Einstellung des Azimuths den Bandlauf in beiden Richtungen zu kontrollieren – falls notwendig, wiederholen.

Für Einstellung des Azimuths des REC/Pb –Kopfes und der Bandgeschwindigkeit siehe Servicedokumentation des betreffenden Gerätes.

I CONSIGLI DI SERVIZIO ASSISTENZA

SMONTAGGIO

– **Smontaggio del rullino pressanastro 50+41 (76+73)**

Spingere la linguetta di bloccaggio del supporto delle testine lateralmente e tirare in alto la leva 40 (73).

– **Smontaggio dell'accoppiamento di avvolgimento 402**

Spingere le linguette di bloccaggio lateralmente (p.e. con una piccola pinza) e tirare in alto l'accoppiamento 402.

REGISTRAZIONI e CONTROLLI

– **Controllo della forza del rullino pressanastro contro il rullino trainonastro:**

La forza del rullino pressanastro contro il rullino trainonastro deve essere di 240 ± 30 p.

Metodo di misurazione:

Inserire una qualsiasi cassetta e premere il tasto di riproduzione. Allontanare il rullino pressanastro con un misuratore della pressione elicoidale (4822 395 80028) dal rullino trainonastro (fig. 2).

Leggere il valore proprio al momento che il nastro si arresta.

Non è possibile correggere questa pressione!

– **Accoppiamento di avvolgimento 402**

La coppia può essere misurata con l'aiuto della cassetta di controllo della frizione 4822 395 30054 nel modo di riproduzione.

Valori prescritti:

Coppia di avvolgimento: 40–65 pcm.

(tolleranza: 5 pcm)

Bobina di svolgimento : 2–4 pcm.

– **Coppia di avvolgimento/riavvolgimento**

Servirsi della cassetta di controllo della frizione 4822 395 30054 nel modo di avvolgimento o riavvolgimento.

Bloccare con la mano la rotazione della bobina di svolgimento e leggere la forza di frizione.

Valore prescritto: 55–90 pcm.

- Controllo della regolazione del **trasporto del nastro** e del rullino trainonastro

Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.

Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volano 5.

Il nastro deve passare ben dritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

Attenzione: in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.

Per la **registrazione dell'azimut** della testina di registrazione/riproduzione e la **velocità di trasporto del nastro**, consultare il manuale di servizio assistenza dell'apparecchio in questione.

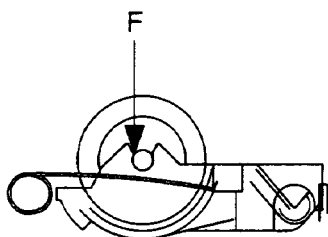
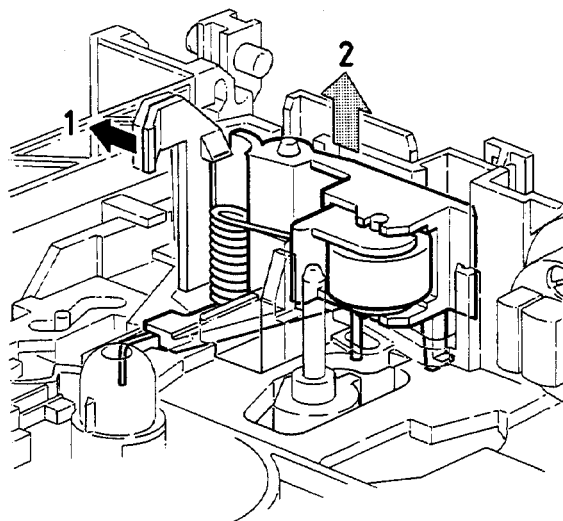


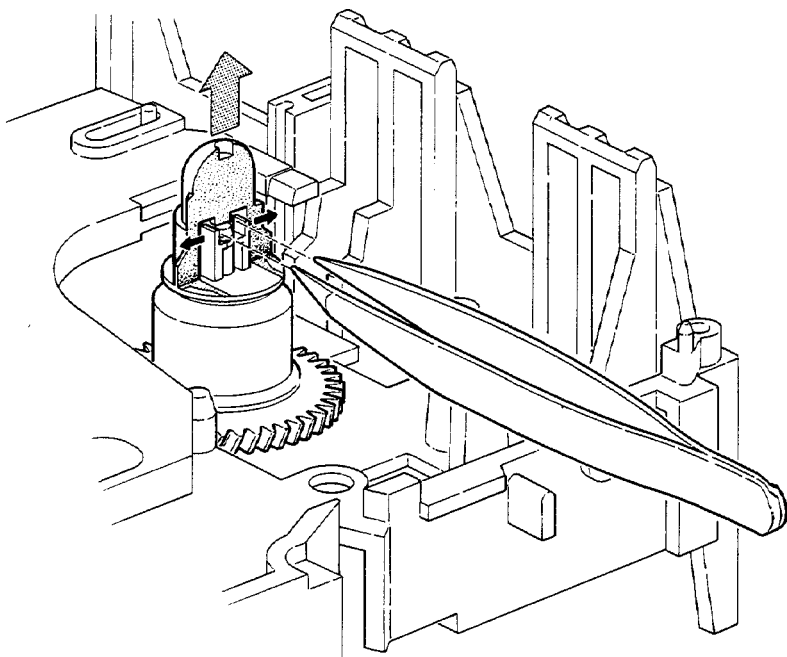
FIG 2

MDA.00429
T07/646

REMOVAL OF PINCH ROLLER



REMOVAL OF CARRIER (9), (20)



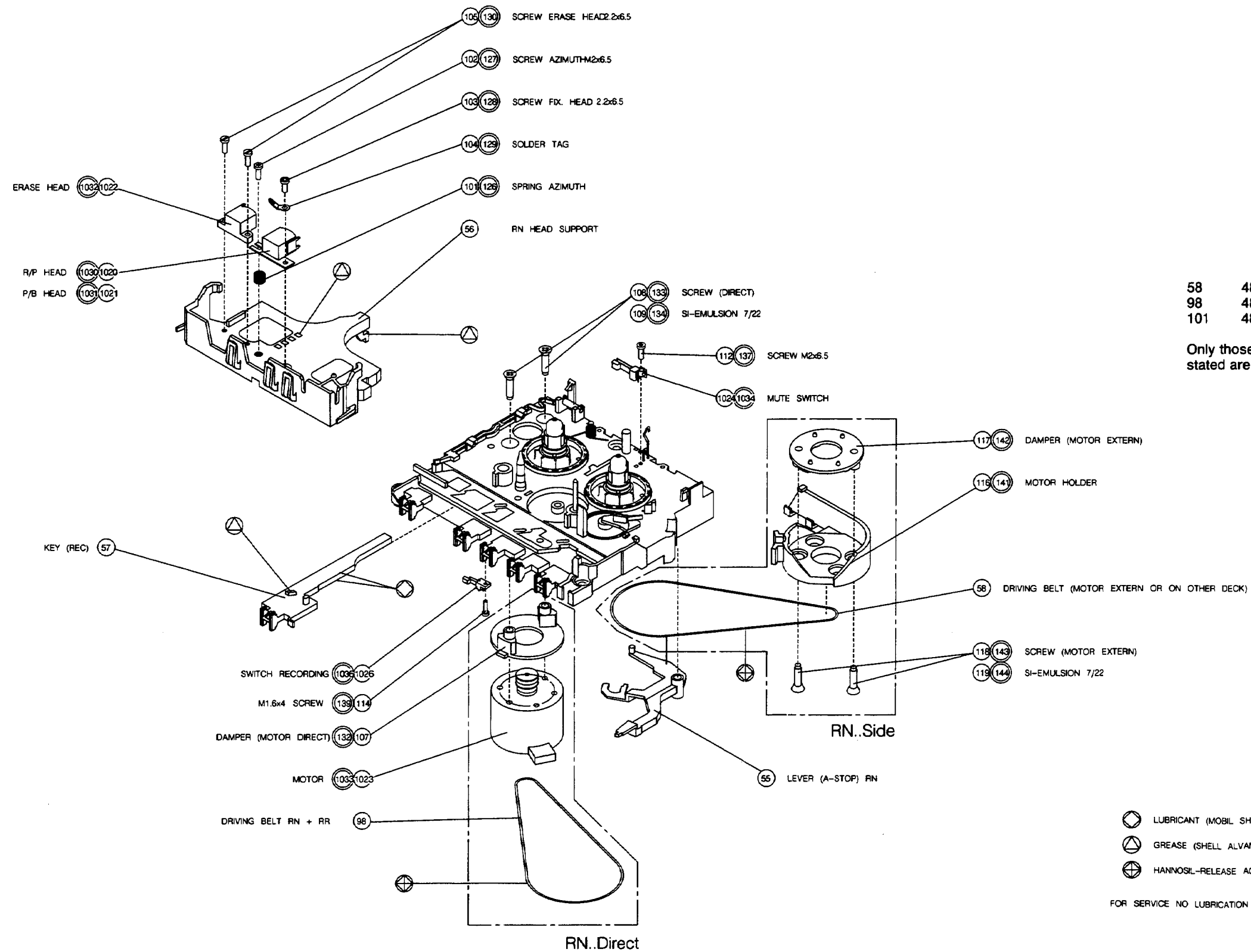
Supplement

Suppl

RN-PARTS (additional to basic parts)

ITEM 100 TO 124 ON "DECK A"

ITEM 125 TO 149 ON "DECK B"



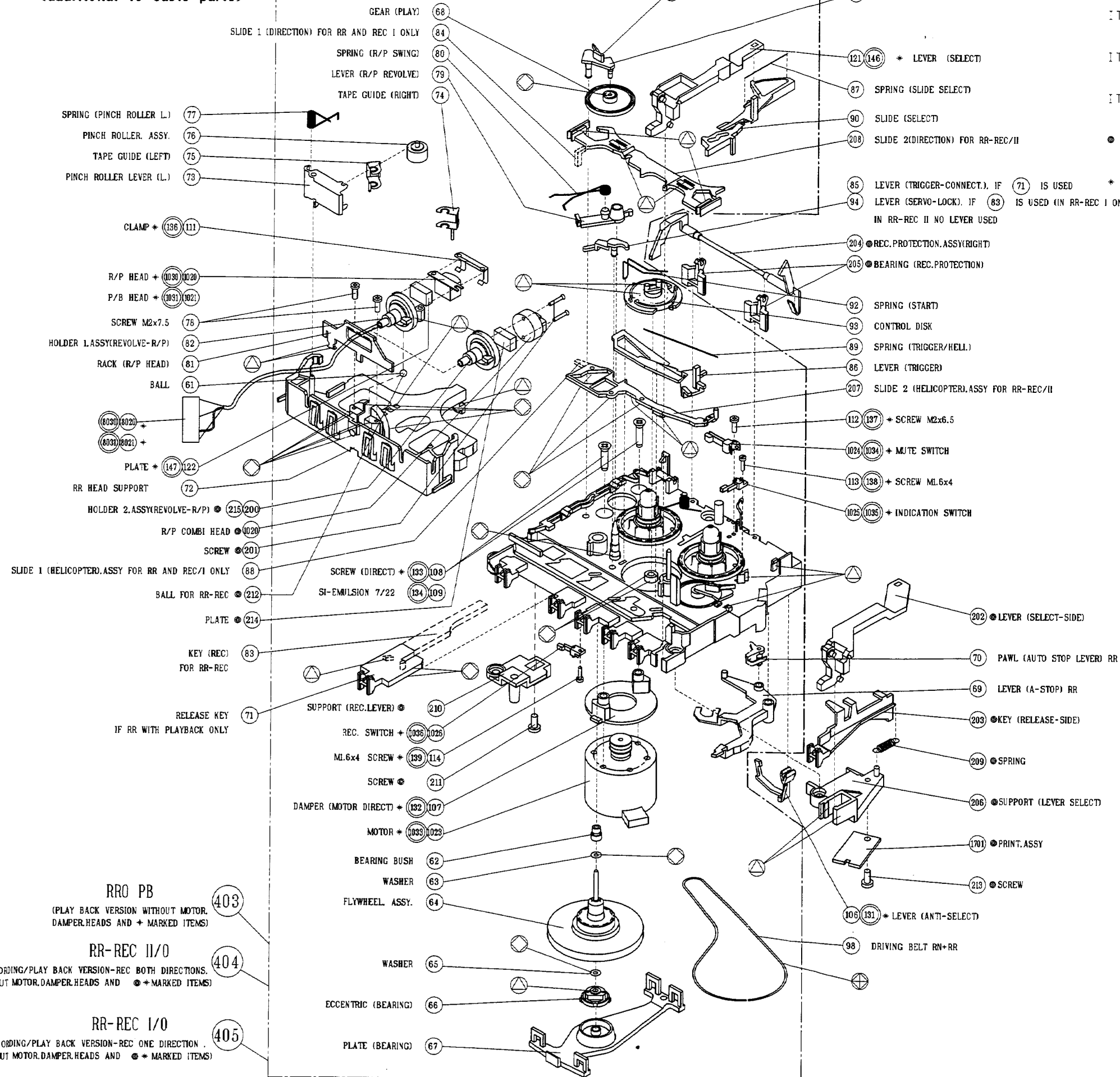
58 4822 358 30929 driving belt RN 0S
98 4822 358 30928 driving belt RN 0D
101 4822 492 51473 spring azimuth

Only those parts of which a service code number is stated are service parts.

- ⊗ LUBRICANT (MOBIL SHC 634) term No. 48
- ⊕ GREASE (SHELL ALVANIA RS) term No. 49
- ⊙ HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

RR - PARTS (additional to basic parts)



EXPLANATIONS FOR VERSIONS:

ITEM 100 TO 124 ON "DECK A"

ITEM 125 TO 149 ON "DECK B"

ITEM 200 TO 215 ONLY USED IN REC. VERSION

* NOT IN RR-REC I/O AND RR-REC II/O

* DEPENDENT ON VERSION, THEREFORE NOT IN RR O PB AND RR-REC I/O AND RR-REC II/O

67	4822 520 10718	plate bearing
73	4822 402 10038	lever pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
76	4822 528 70646	pinch roller

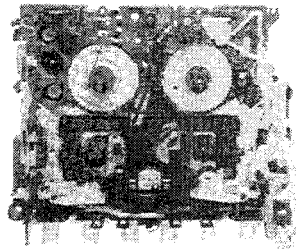
106	4822 403 70385	lever
111	4822 492 70393	spring head clamping
403	4822 691 10294	RR O PB assy
404	4822 691 20665	RR REC II/O assy
405	4822 691 10295	RR REC I/O assy

Only those parts of which a service code number is stated are service parts.

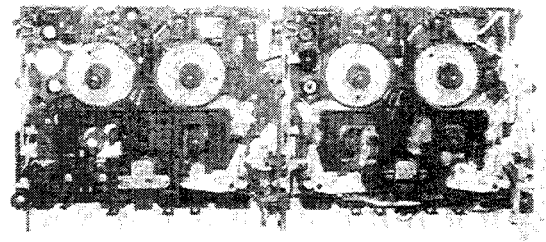
	LUBRICANT (MOBIL SHC 634)	Item No. 48
	GREASE (SHELL ALVANIA RS)	Item No. 49
	HANNOSIL-RELEASE AGENT M	Item No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

**Service
Service
Service**



44 990 A11



44 990 A11

Service Manual

(GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Capstan
- Pressure roller

(F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Cabestan
- Galet presseur

(NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Toonas
- Drukrol

(D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Tonachse
- Andruckrolle

(I) MANUTENZIONE

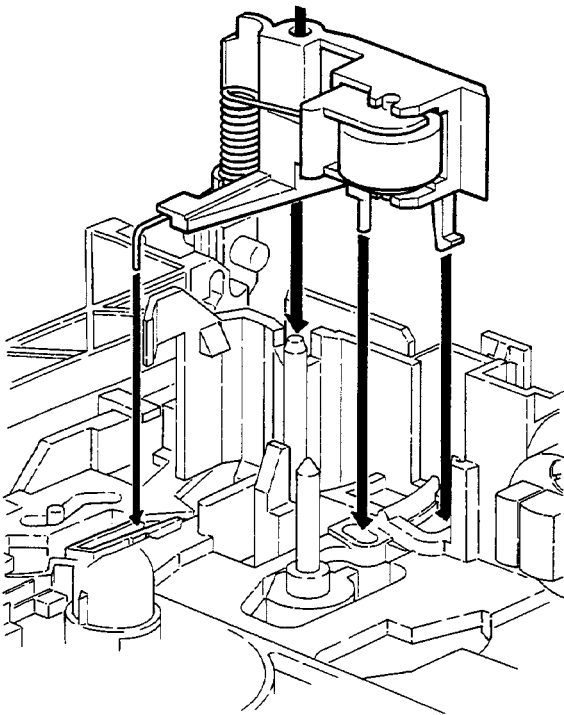
E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

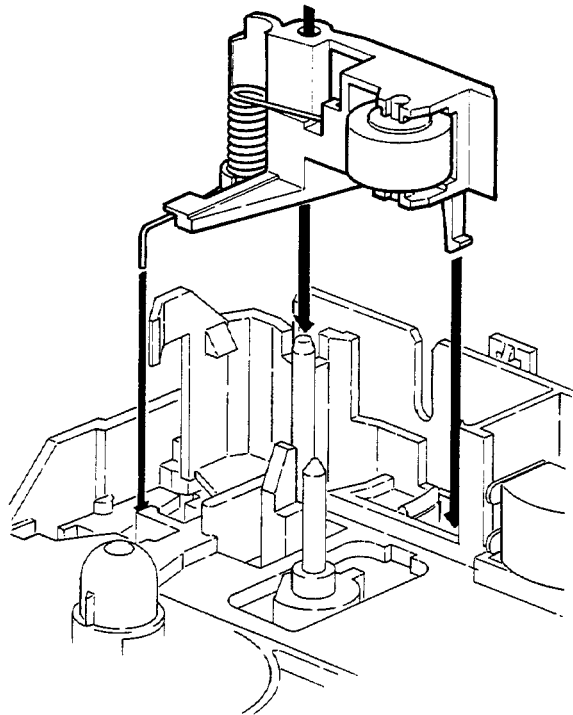
- Testina di cancellazione
- Testina di registrazione/riproduzione
- Capstan
- Rullo preminastro

MOUNTING OF PINCH ROLLER

for autoreverse decks

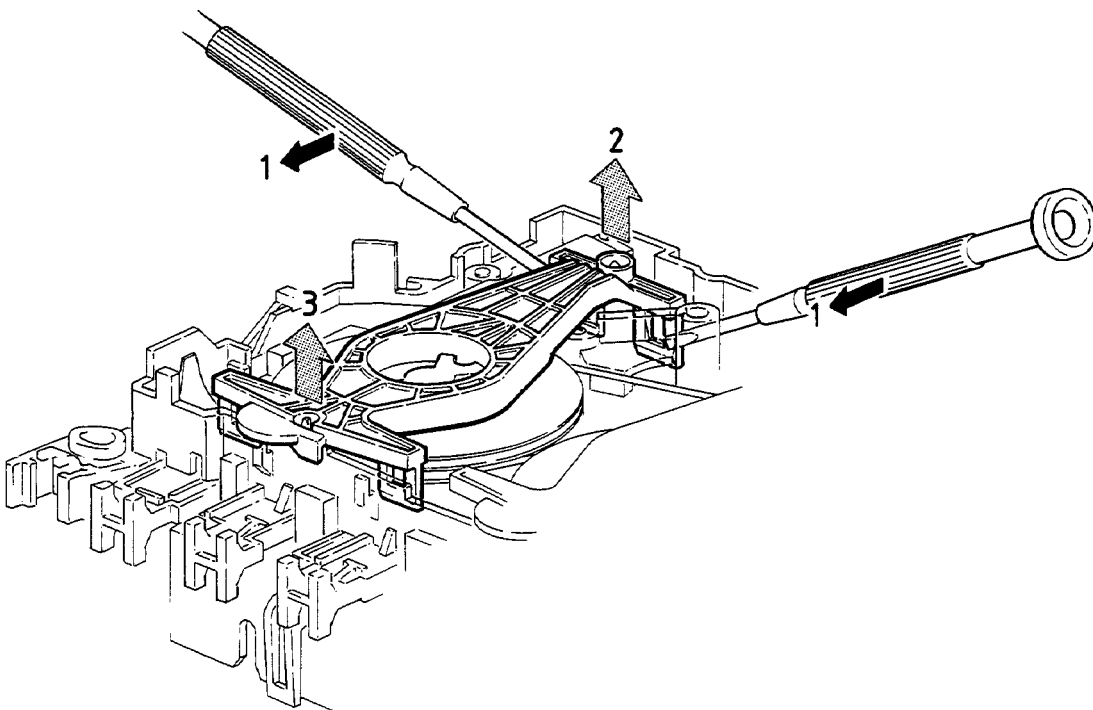


for single direction decks



REMOVAL OF BEARING PLATE ⑦ ⑥⑦

Begin rearwards as indicated



(GB)

REVERSE MODE -position 2 of mode selector 121

"FF" or "REW": On tape end full "auto shut off" will be activated and "mode selector" will be switched over to "normal mode".

To ensure a reliable switching over of the "mode selector" in case of "full auto shut off" it is necessary that flywheel makes at least 3 turns after switching off the supply. Therefore a **motor shut off-delay** has been added.

(F)

MODE REVERSE (retour en arrière)- position 2 ou sélecteur de mode 121

"FF" ou "REW": En fin de bande, l'arrêt total automatique sera activé et le "sélecteur de mode" commutera sur "mode

normal".

Pour garantir une commutation fiable du "sélecteur de mode" en cas d'arrêt total automatique, il faut que le volant effectue au moins 3 tours après la mise hors circuit. C'est la raison pour laquelle un **retard d'arrêt du moteur** a été intégré.

(NL)

REVERSE MODE - positie 2 van keuzeschakelaar 121

"FF" of "REW": Aan het einde van de band wordt de automatische uitschakeling geactiveerd en wordt keuzeschakelaar 121 naar "normal mode" geschakeld.

Om bij automatische uitschakeling een betrouwbare omschakeling van de keuzeschakelaar te waarborgen, is het noodzakelijk dat het vliegwiel na de uitschakeling nog minstens 3 omwentelingen maakt.

Om dit te bereiken is een **uitschakelingsvertraging** voor de motor ingebouwd.

(D)

REVERSE MODE -Position 2 des Mode-Selektors 121

"FF" oder "REW": Am Bandende schaltet die automatische Endabschaltung ab und der "Mode Selektor" wird auf "normal mode" umgeschaltet.

Um ein zuverlässiges Umschalten des "Mode Selektors" nach der automatischen Endabschaltung zu gewährleisten, ist es notwendig, dass die Schwungmasse nach dem Abschalten noch mindestens 3 Umdrehungen macht.

Deshalb wurde eine **Motor-Abschaltverzögerung** eingebaut.

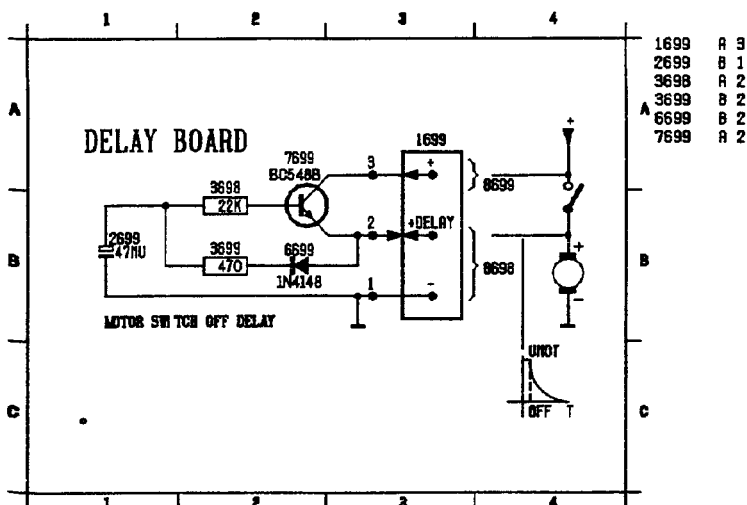
(I)

MODO REVERSE - posizione 2 del selettore 121

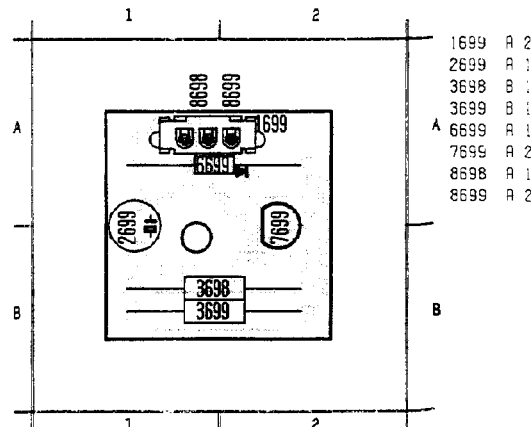
"FF" o "REW": alla fine del nastro nella cassetta, l'apparecchio viene spento automaticamente ed il selettore 121 commutato nel "modo normale".

Onde assicurare allo spegnimento automatico una commutazione affidabile del selettore è necessario che il volante dopo lo spegnimento faccia ancora almeno 3 giri. Per tale ragione è incorporato un ritardo di arresto per il motorino.

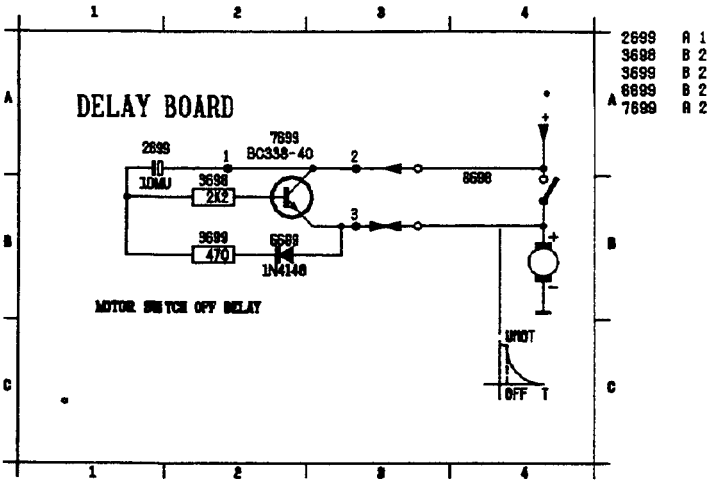
VERSION 1



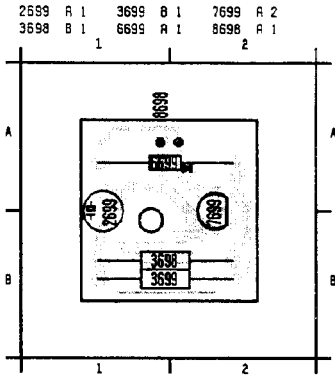
DELAY BOARD / SIDE-B VIEW /



VERSION 2



DELAY BOARD / COMPONENTSIDE VIEW / AS9500



CAD-REF: PC.AS9500.P0.02.AS9500.00.SERV-B / 90-04-12

SUMMARY OF SERVICE CODE NUMBERS

RN - TAPE TRANSPORTS

	RN 1	RN 2	RN 3	RN 4	RN 5	RN 6	RN 7			
Motor MMI-6H2LWKR 4822 361 21323	x	x		x		x	x			
Motor MMI-6H2LWDR 4822 361 21298										
Motor MMI-6H9LWDR 4822 361 21285										
Motor MMI-6S9LR 4822 361 21425			x							
Motor MMI-6S9LRK 4822 361 21446					x					
Head erase 4822 249 20072	x	x	x	x	x					
Head dummy 4822 443 61616 4822 404 10685						x	x			
Head Rec/Pb 4822 249 10334	x		x		x					
Head Rec/Pb 4822 249 10397		x		x		x	x			
Damper, Motor (S) 4822 529 10193	x									
Damper, Motor (D) 4822 529 10254		x	x	x	x	x	x			
Screw, Motor (S) 4822 502 30441	x									
Screw, Motor (D) 4822 502 11866		x	x	x	x	x	x			
Support, Motor (S) 4822 403 53996	x									
Switch, Indic. "PLAY" 4822 271 30598	x	x		x		x	x			
Switch, "RECORD" 4822 278 90624		x		x						

GENERAL PARTS RN - TAPE TRANSPORTS

7/67 4822 520 10718 bearing plate
 38 4822 520 40134 ball, bearing
 40 4822 402 10037 lever, pinch roller right
 41/76 4822 528 70646 pinch roller
 43 4822 404 10853 slide, key lock

58 4822 358 30929 drive belt RN0 S (long)
 98 4822 358 30928 drive belt RN0 D (short)
 101/126 4822 492 51473 spring azimuth
 401 4822 691 10296 RN0 assy
 402 4822 528 20676 take-up clutch assy

SUMMARY OF SERVICE CODE NUMBERS

RDN - TAPE TRANSPORTS

	RDN 1	RDN 2	RDN 3	RDN 4	RDN 5	RDN 6	RDN 7	RDN 8	RDN 9	RDN 10
Motor MMI-6H2LWKR 4822 361 21323										
Motor MMI-6H2LWDR 4822 361 21298		x		x				x		x
Motor MMI-6H9LWDR 4822 361 21285	x		x		x	x	x		x	
Motor MMI-6S9LR 4822 361 21425										
Motor MMI-6S9LRK 4822 361 21446										
Head erase 4822 249 20072	x	x	x	x	x	x	x	x	x	x
Head dummy 4822 443 61616 4822 404 10685	x	x	x	x	x	x	x	x	x	x
Head Rec/Pb 4822 249 10334	x	x	x	x	x	x				
Head Rec/Pb 4822 249 10397							x	x	x	x
Damper, Motor (S) 4822 529 10193										
Damper, Motor (D) 4822 529 10254	x	x	x	x	x	x	x	x	x	x
Screw, Motor (S) 4822 502 30441										
Screw, Motor (D) 4822 502 11866	x	x	x	x	x	x	x	x	x	x
Support, Motor (S) 4822 403 53996										
Switch, Indicat."PLAY" 4822 271 30598	x			x	x		xx	xx		x
Switch, "RECORD" 4822 278 90624							x	x		x

GENERAL PARTS RDN - TAPE TRANSPORTS

7/67	4822 520 10718	bearing plate	58	4822 358 30929	drive belt RN0 S (long)
38	4822 520 40134	ball, bearing	98	4822 358 30928	drive belt RN0 D (short)
40	4822 402 10037	lever, pinch roller right	101/126	4822 492 51473	spring azimuth
41/76	4822 528 70646	pinch roller	401	4822 691 10296	RN0 assy
43	4822 404 10853	slide, key lock	402	4822 528 20676	take-up clutch assy

SUMMARY OF SERVICE CODE NUMBERS

RR / RDR - REVERSE TAPE TRANSPORTS

	RR 1	RR 2	RR 3	RDR 1	RDR 2	RDR 3	RDR 4	RDR 5	RDR 6	RDR 7	RDR 9
Motor MMI-6H2LWKR 4822 361 21323	x	x	x								
Motor MMI-6H2LWDR 4822 361 21298						x	x				
Motor MMI-6H9LWDR 4822 361 21285				x	x			x	x	x	x
Motor MMI-6S9LR 4822 361 21425											
Motor MMI-6S9LRK 4822 361 21446											
Head erase 4822 249 20072				x	x	x	x	x	x	x	x
Head Rec/Pb 4822 249 10334				x	x	x		x	x	x	
Head Rec/Pb 4822 249 10397							x				x
Head (reverse deck) 4822 249 30153	x			x	x	x		x	x	x	
Head (reverse deck) 4822 249 30156		x	x				x				x
Damper, Motor (D) 4822 529 10254	x	x	x	x	x	x	x	x	x	x	x
Screw, Motor (D) 4822 502 11866	x	x	x	x	x	x	x	x	x	x	x
Switch, Indicat."PLAY" 4822 271 30598	x	x	x	x	x	x	xx	x	x	x	x
Switch, "RECORD" 4822 278 90624							x				

GENERAL PARTS RR / RDR - REVERSE TAPE TRANSPORTS

7/67 4822 520 10718 bearing plate
 38/61 4822 520 10134 ball, bearing
 40 4822 402 10037 lever, pinch roller right
 41/76 4822 528 70646 pinch roller
 43 4822 404 10853 slide, key lock

 58 4822 358 30929 drive belt RNO S (long)
 73 4822 402 10038 lever, pinch roller left
 74 4822 535 92992 tape guide right
 75 4822 535 92993 tape guide left
 98 4822 358 30928 drive belt RNO D (short)

101/126 4822 492 51473 spring azimuth
 106 4822 403 70385 lever, antiselect (WT02 onwards)
 111 4822 492 70393 head clip
 121 4822 403 53876 lever, mode select
 401 4822 691 10296 RNO assy

 402 4822 528 20676 take-up clutch assy
 403 4822 691 10294 RR0 Pb assy
 1025 4822 278 90624 switch, direction indication

SUMMARY OF SERVICE CODE NUMBERS

*RR REC*ording - REVERSE TAPE TRANSPORTS

	RR-REC/I/1		RR-RECII/1	RR-RECII/2	RR-RECII/3			
Motor MMI-6H2LWKR 4822 361 21323								
Motor MMI-6H2LWDR 4822 361 21298								
Motor MMI-6H9LWDR 4822 361 21285								
Motor MMI-6S9LR 4822 361 21425	x		x					
Motor MMI-6S9LRK 4822 361 21446				x	x			
Combi Head rotation 4822 249 10434	x		x	x	x			
Damper, Motor (D) 4822 529 10254	x		x	x	x			
Screw, Motor (D) 4822 502 11866	x		x	x	x			
Switch, Indicat."PLAY" 4822 271 30598								
Switch, "RECORD" 4822 278 90624								
Lever, mode select 4822 403 70386			x	x	x			

GENERAL PARTS RR REC - REVERSE TAPE TRANSPORTS

7/67	4822 520 10718	bearing plate	204	4822 403 70387	lever, recording protection
38/61/212	4822 520 40134	ball, bearing	205	4822 520 20725	bearing, recording protection
40	4822 402 10037	lever, pinch roller right	209	4822 492 33272	spring, tension
41/76	4822 528 70646	pinch roller	402	4822 528 20676	take-up clutch assy
43	4822 404 10853	slide, key lock	404	4822 691 10295	RR-REC/I/0 assy
73	4822 402 10038	lever, pinch roller left	405	4822 691 20665	RR-RECII/0 assy
74	4822 535 92992	tape guide right	1025	4822 278 90624	switch, direction indication
75	4822 535 92993	tape guide left			
98	4822 358 30928	drive belt RNO D (short)			
106	4822 403 70385	lever, antiselect (WT02 onwards)			

Service Information

CORRECTIONS TO THE SERVICE MANUAL

* Front-page

Maintenance: Statement, that BELTS should be cleaned with alcohol or spirit, is wrong.

Correct: Belts must **n o t** be cleaned with alcohol or spirit !

Reason : Belts are treated with silicone milk to avoid mechanical oscillation.

- * **Block diagram** which describes the modular structure of the RN/RR, RDN/RDR system has to be updated.
For new updated block diagram see annex.

* Service hints

In the service manual there is stated: The head support (pos.56/72) cannot be removed because a special tool is necessary to assemble spring pos.39.

Now an easy method has been found to assemble spring pos.39 without a special tool —> see annex "Service Hints"

* Exploded View RR-parts

Because of the new RR-Recording-types the exploded view for RR parts has been revised. —>
For the new, updated, exploded view see annex.

COMPONENTS ADDED TO THE SERVICE PARTSLIST

pos.	7/67	4822 520 10718	bearing plate
pos.	43	4822 404 10853	slide, key locking
pos.	106	4822 403 70385	lever, antiselect
pos.	404	4822 691 20665	RR RECII/0 assy
pos.	405	4822 691 10295	RR RECI/0 assy

CHANGES IN COARSE OF PRODUCTION

(Only reverse decks RR)

- * To avoid "tape salad" after pressing the PLAY button, lever pos.91 was adapted.
The adapted lever has been used from production week 9004 onwards — hot stamped in chassis **004xA** (x stands for production day 1–5, A or B stands for the shift which the part was produced in).

* **Bearing of rotary head:** tolerance in multi-cavity tools adapted.

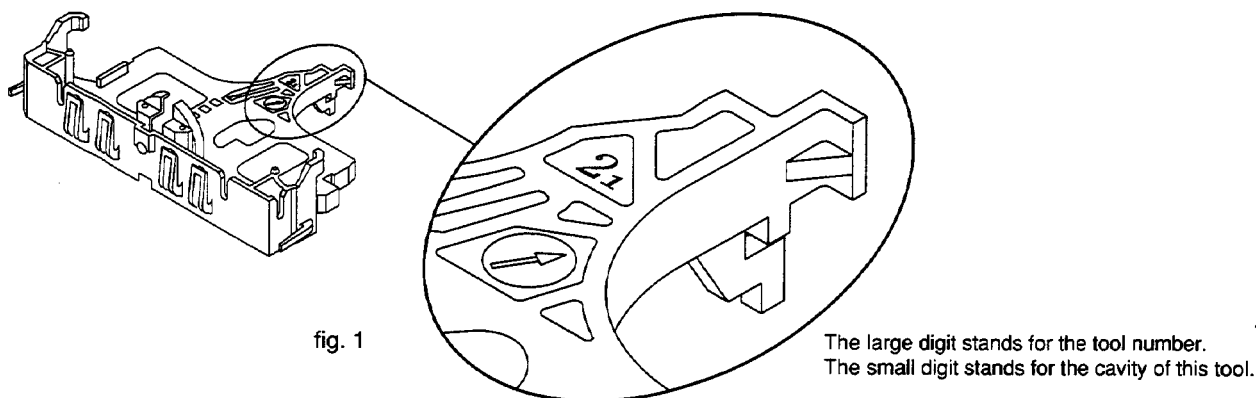
Fault: Head jams when turned.

This effect occurs only in tape transports assembled with head supports pos.72 just after production start with multi-cavity tools and appears when the drive is used (or was stored) in a climate of more than 80% relative humidity.

Head supports produced with multi-cavity tools can be identified by a 2 digit marking – see fig.1

Bad head supports, where the failure can occur, have only been used in tape transports produced from production week 9024 up to 9031 – hot stamped in the chassis **024xA up to 031xA** (x stands for the production day 1–5, A or B stands for the shift which the part was produced in).

For service purposes the complete transport mechanism RR0 assy 4822 691 10294 is available.



* **Delay board**

To ensure a reliable switch over of the MODE SELECTOR to “normal mode” after full auto shutoff, an electronic delay-circuit was added to all auto reverse tape transports with production change code **WT01**.

For this electronic delay circuit there were 2 different versions available —> for schematic diagrams and assembly drawings see next two pages.

From production week 9042 with change code **WT02** onwards this electronic delay-circuit has been replaced by a mechanical solution:

lever pos. 70 changed

lever pos.106 added 4822 403 70385

Attention: Lever pos.106 is not mounted on all RR0Pb (4822 691 10294), RR-REC/I/O (4822 691 10295) and RR-RECII/O (4822 691 20665) tape transports, available for service purposes —> because of the changed lever pos.70 the auto-shutoff function does not work without lever pos.106!

If a tape transport with change code **WT01** will be exchanged by a tape transport with change code **WT02** lever pos.106 has to be ordered extra and mounted on the new tape transport. —> see fig.2

From June 92 onwards it is organized that the tape transports will be delivered with lever pos.106 mounted.

